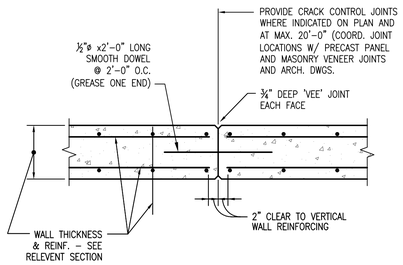
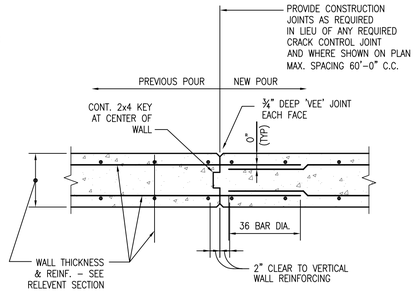


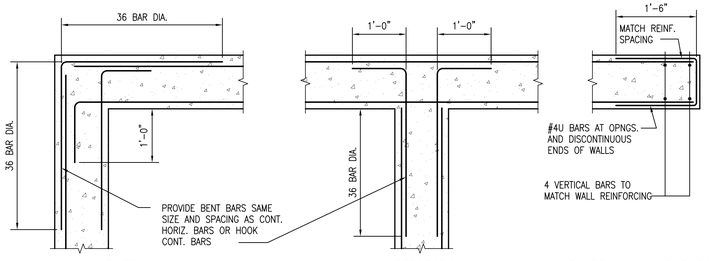
CRACK CONTROL JOINT



CONSTRUCTION JOINT

TYPICAL CONCRETE WALL VERTICAL JOINT DETAILS

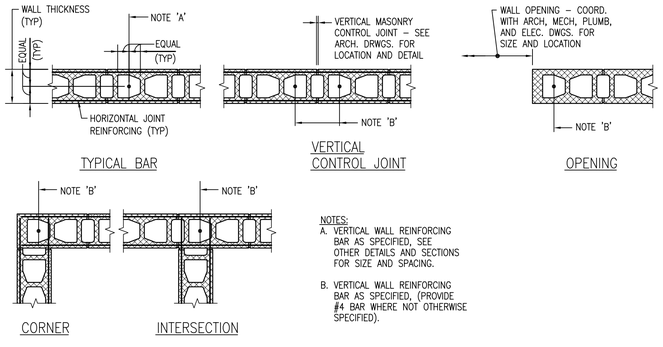
NOT TO SCALE



CORNER INTERSECTION AT OPENINGS AND ENDS

TYPICAL WALL HORIZONTAL REINFORCING DETAILS

NOT TO SCALE



TYPICAL BAR VERTICAL CONTROL JOINT OPENING

CORNER INTERSECTION

NOTES:
A. VERTICAL WALL REINFORCING BAR AS SPECIFIED, SEE OTHER DETAILS AND SECTIONS FOR SIZE AND SPACING.

B. VERTICAL WALL REINFORCING BAR AS SPECIFIED, (PROVIDE #4 BAR WHERE NOT OTHERWISE SPECIFIED).

TYPICAL CONCRETE MASONRY VERTICAL WALL REINFORCING DETAILS

NOT TO SCALE

MINIMUM CONCRETE MASONRY WALL REINFORCING SCHEDULE

WALL LOCATION	WALL THICKNESS	VERTICAL REINFORCING	HORIZONTAL REINFORCING
ALL EXTERIOR, LOAD BEARING, SHEARWALL, STAIR, ELEVATOR WALLS	8"	#5 @ 32"	STD LADDER TYPE REINF. @ 16"O.C.
	12"	#7 @ 48"	EXTRA HEAVY LADDER TYPE REINF. @ 16"O.C.
ALL OTHER INTERIOR CMU PARTITION WALLS	ALL SIZES	#4 @ 96"	STD LADDER TYPE REINF. @ 16"o.c. + 1-#4 IN BOND BEAM @ 96"o.c.

NOTES:
1. REFER TO PLANS, DETAILS AND NOTES FOR REINFORCING REQUIREMENTS MORE STRINGENT THAN IN THE SCHEDULE
2. PROVIDE REINFORCED BOND BEAM WITHIN 16" OF TOP OF WALL. PROVIDE 2#5 BARS AT 8" BOND BEAMS, 2#6 AT 12" BOND BEAMS.
3. ALL VERTICAL REINFORCING TO BE IN SOLIDLY GROUTED CELLS, AND PROVIDE 48 DIA LAP AT ALL BAR SPLICES. TYPICAL
4. GROUT SHALL BE "LOW LIFT" GROUTING.

CMU REINFORCING SCHEDULE

NTS

CONCRETE REINFORCING SPLICE SCHEDULE

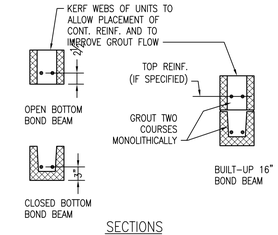
LAP SPLICE	TENSION LAP SPLICE			
CONCRETE	fc'=3000 psi		fc'=4000 psi	
BAR SIZE	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	28"	21"	24"	19"
#4	37"	29"	32"	25"
#5	46"	36"	40"	31"
#6	56"	43"	48"	37"
#7	81"	63"	70"	53"
#8	93"	72"	79"	61"

NOTES:

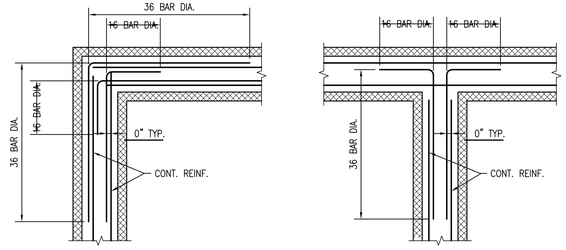
1. ALL SPLICES ARE LAP SPLICE UNLESS OTHERWISE IN SECTION.
2. A TOP BAR IS HORIZONTAL WITH AT LEAST 12" OF FRESH CONCRETE BELOW.
3. EXPOXY-COATED REINFORCING SPLICES SHALL BE INCREASED ACCORDING TO ACI 318.

CONCRETE REINFORCING SPLICE SCHEDULE

NTS



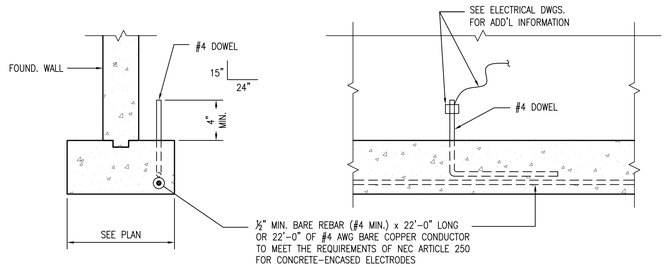
SECTIONS



CORNER INTERSECTION

TYPICAL BOND BEAM REINFORCING DETAILS

NOT TO SCALE



SECTION ELEVATION A-A

NOTE:
ONE (1) LOCATION MINIMUM REQUIRED PER BUILDING, SEE ELECTRICAL DRAWINGS. COORDINATE WITH GENERAL CONTRACTOR FOR LOCATION OF REBAR CONNECTION AND TO PROVIDE ACCESS TO THE REBAR CONNECTION UNTIL ELECTRICAL INSTALLATION AND INSPECTION ARE COMPLETE.

CONCRETE ENCASED GROUNDING ELECTRODE DETAIL

NOT TO SCALE

STANDARD ABBREVIATIONS

A.B.	ANCHOR BOLTS
ALT	ALTERNATE
ARCH	ARCHITECTURAL
ADD'L	ADDITIONAL
B.O.F	BOTTOM OF FOOTING
BOTT	BOTTOM
BRG	BEARING
CJ	CONTROL JOINT
℄	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONTIN	CONTINOUS
DIA	DIAMETER
DWG	DRAWING
DWLS	DOWELS
E.A.	EACH FACE
E.W.	EACH WAY
E.J.	EXPENSION JOINT
ELEV.	ELEVATION
EQ	EQUAL
EXIST	EXISTING
EXT	EXTERIOR
F.F.	FINISHED FLOOR
FOUND.	FOUNDATION
FS	FAR SIDE
FTG	FOOTING
GA	GAUGE
GALV.	GALVANIZED
GB	GRADE BEAM
HK	HOOK
H.P.	HIGH POINT
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL STEEL
I.F.	INSIDE FACE
LOD	LIMIT OF DECK
LLH	LONG LEG HORIZONTA
LLV	LONG LEG VERTICAL
L.W.	LONG WAY
L.G.	LIGHT GAGE
L.P.	LOW POINT
LAM	PARALLAM
MTL	METAL
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MC	MOMENT CONNECTION
MISC	MISCELLANIES
NS	NEAR SIDE
NTS	NOT TO SCALE
O.C.	ON CENTER
O.F.	OUTSIDE FACE
OPNG	OPENING
O.H.	OPPOSITE HAND
PL.	PLATE
P.T.	PRESSURE TREATED
REF	REFERENCE
FOUND.	REINFORCING
REQ'D	REQUIRED
RTU	ROOF TOP UNIT
RD	ROOF DRAIN
S.O.G	SLAB ON GRADE
SIM	SIMILAR
S.W.	SHORT WAY
SQ	SQUARE
SCHED	SCHEDULE
STRUCT	STRUCTURAL
T&B	TOP AND BOTTOM
TCX	TOP CHORD EXTENSION
T.O.BS	TOP OF BRICK SHELF
T.O.C.	TOP OF CONCRETE
T.O.F.	TOP OF FOOTING
T.O.S.	TOP OF STEEL
T.O.P.	TOP OF PIER
T.O.W.	TOP OF WALL
TYP.	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V.I.F.	VERIFY IN FIELD
VERT	VERTICAL
W.P.	WORK POINT
WWF	WELDED WIRE FABRIC
W/	WITH

RDA architecture
Raymond Design Associates, Inc.
222 North Street
Hingham, MA 02043

RRC Engineering LLC structural engineers
78 South Street Wrentham, MA 02093
508 384-0163
www.rrcengineering.com

NEWTON SOUTH HIGH SCHOOL
FIELD FACILITY BUILDING
140 BRANDEIS ROAD
NEWTON CENTER MASSACHUSETTS 02459

TYPICAL DETAILS

Revisions:

No.	Date	Description
1	04.05.10	
	09.08.11	BID SET

Drawn By: PES
Checked By: DAJ
Approved By: RRC

Drawing Scale:

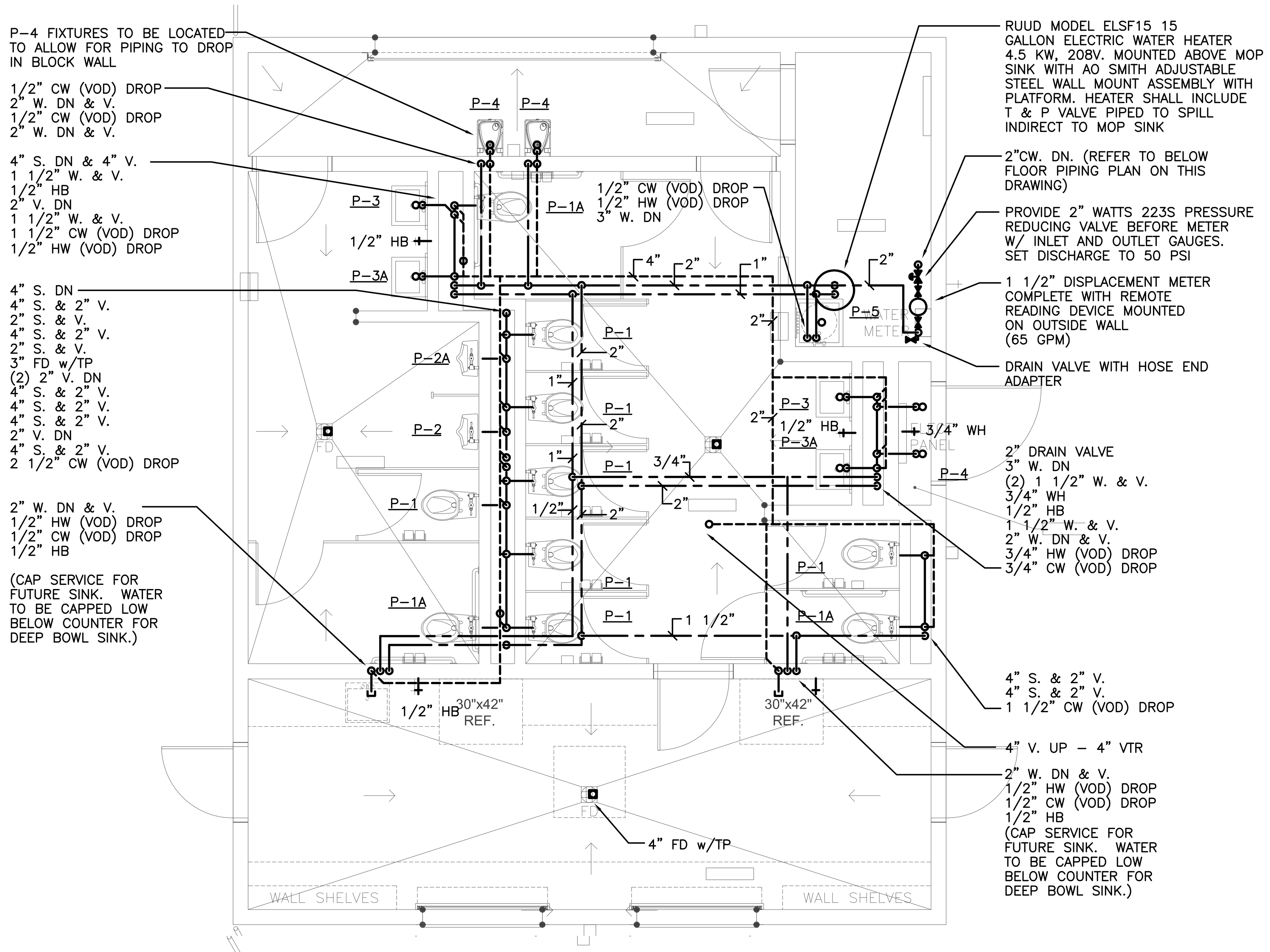
Project Number: 10025

Date: 09.08.11

BID SET

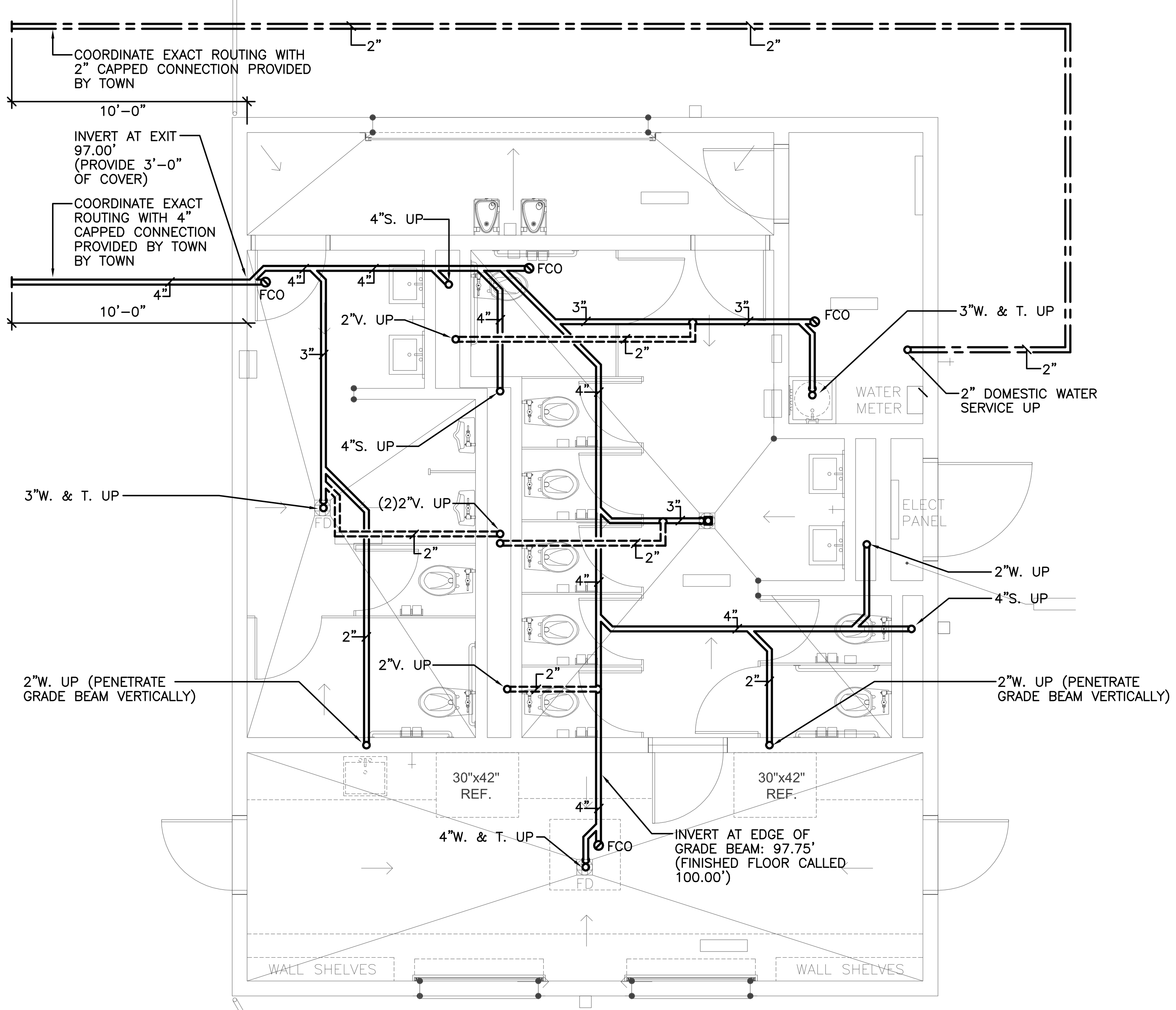
S201

SHEET OF



ABOVE FLOOR PIPING PLAN

SCALE: 1/4"= 1'-0"



BELOW FLOOR PIPING PLAN

SCALE: 1/4"= 1'-0"

NOTE:
ALL UNDERSLAB PIPING SHALL BE SUPPORTED FROM STRUCTURAL SLAB. PIPE HANGERS SHALL HAVE A BITUMINOUS COATING.

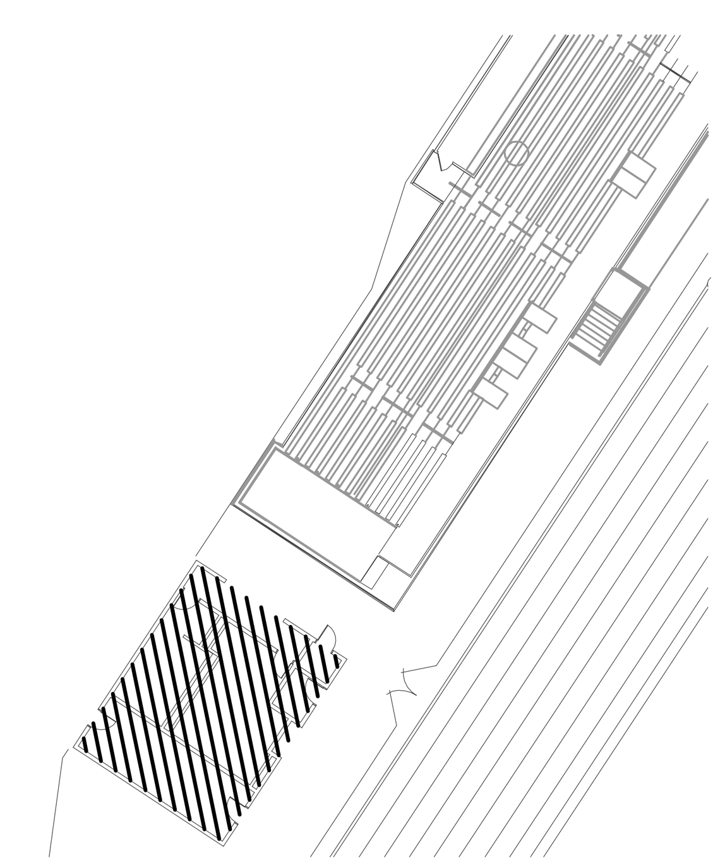
PLUMBING LEGEND:

SYMBOL	ABBREVIATION	DESCRIPTION
(single line)		ABOVE FLOOR PIPING (INDICATED AS SINGLE LINEWORK)
(double line)		BELOW FLOOR PIPING OR BURIED PIPING (INDICATE AS DOUBLE LINEWORK)
— - —	CW	COLD WATER PIPING
— - - —	HW	HOT WATER PIPING
——	S OR W	SANITARY OR WASTE PIPING
- - - -	V	VENT PIPING
—⋈—		BALL OR GATE VALVE
	FD	FLOOR DRAIN
	TP	TRAP PRIMER
	WH	WALL HYDRANT
	HB	HOSE BIBB
	VOD	VALVE ON DROP
	FCO	FLOOR CLEANOUT
	GCO	GRADE CLEANOUT

PLUMBING FIXTURE SCHEDULE

DESIGNATION	FIXTURE DESCRIPTION	CONNECTION SIZE CW	HW	S/W	V	REMARKS
P-1	WATERCLOSET	1"	-	4"	2"	TOTO MODEL CT708E OR EQUAL WALL HUNG 1.28 GPF COMPLETE WITH TOTO TMT1LN-31 MANUAL FLUSH VALVE, TOTO SC534 OPEN FRONT SEAT AND JAY R. SMITH SIPHON JET HORIZONTAL FOUR BOLT CARRIER TO SUIT.
P-1A	WATERCLOSET (ACCESSIBLE)	1"	-	4"	2"	TOTO MODEL CT708E OR EQUAL WALL HUNG 1.28 GPF COMPLETE WITH TOTO TMT1LN-31 MANUAL FLUSH VALVE, TOTO SC534 OPEN FRONT SEAT AND JAY R. SMITH SIPHON JET HORIZONTAL FOUR BOLT CARRIER TO SUIT. MOUNT AT ACCESSILBE HEIGHT.
P-2	URINAL	3/4"	-	2"	2"	KOHLER BARDON MODEL K-4904-ET OR EQUAL WASHOUT URINAL COMPLETE WITH KOHLER K-10949 0.125 GPF DC POWERED FLUSH VALVE AND JAY R. SMITH FLOOR BOLT CARRIER TO SUIT.
P-2A	URINAL (ACCESSIBLE)	3/4"	-	2"	2"	KOHLER BARDON MODEL K-4904-ET WASHOUT URINAL COMPLETE WITH KOHLER K-10949 0.125 GPF DC POWERED FLUSH VALVE AND JAY R. SMITH FLOOR BOLT CARRIER TO SUIT. MOUNT AT ACCESSIBLE HEIGHT.
P-3	LAVATORY	1/2"	1/2"	1 1/2"	1 1/2"	TOTO MODEL LT307.4 OR EQUAL WALL MOUNTED 21"x18" COMPLETE WITH SYMMONS MODEL S-60-G-H FAUCET, SUPPLIES WITH KEY STOPS, GRID STRAINER, P-TRAP AND JAY R. SMITH FLOOR BOLT CARRIER TO SUIT.
P-3A	LAVATORY (ACCESSIBLE)	1/2"	1/2"	1 1/2"	1 1/2"	TOTO MODEL LT307.4 OR EQUAL WALL MOUNTED 21"x18" COMPLETE WITH SYMMONS MODEL S-60-G-H FAUCET, SUPPLIES w/ KEY STOPS, OFFSET GRID STRAINER, P-TRAP, TRUEBRO CONTACT PROTECT WRAP AND JAY R. SMITH FLOOR BOLT CARRIER TO SUIT.
P-4	DRINKING FOUNTAIN	1/2"	-	1 1/2"	1 1/2"	TWO (2) HAWS MODEL 1047 OR EQUAL WALL MOUNTED DRINKING FOUNTAIN COMPLETE WITH MOUNTING BRACKET AND P-TRAP.
P-5	MOP SINK	1/2"	1/2"	3"	2"	FIAT MODEL MSB2424 OR EQUAL COMPLETE WITH 830-AA FAUCET, BUMPERGUARDS AND MSG2424 WALL GUARDS.
FD	FLOOR DRAIN	-	-	3"	2"	WADE MODEL 1100STD OR EQUAL COMPLETE WITH TRAP PRIMER CONNECTION AND SECURITY SCREWS.
HB	HOSE BIBB	1/2"	-	-	-	WOODFORD MODEL 24 OR EQUAL COMPLETE WITH SCREW ON BACKFLOW DEVICE. VANDAL PROOF.
TP	TRAP PRIMER ASSEMBLY	1/2"	-	-	-	PPP PR-500 OR EQUAL PRIME RITE TRAP PRIMING VALVE ASSEMBLY
WH	WALL HYDRANT	3/4"	-	-	-	WOODFORD MODEL 24 OR EQUAL COMPLETE WITH SCREW ON BACKFLOW DEVICE. VANDAL PROOF.

NOTE:
ALL DEVICES, EQUIPMENT AND FIXTURES SHALL BE INSTALLED FOR COMPLETE DRAIN DOWN AND WINTERIZATION.



KEY PLAN

RDA architecture
Raymond Design Associates, Inc.
222 North Street
Hingham, MA 02043
Wozny/Barbar & Associates, Inc.
CONSULTING ENGINEERS

NEWTON SOUTH HIGH SCHOOL
FIELD FACILITY BUILDING
140 BRANDEIS ROAD
NEWTON CENTER MASSACHUSETTS 02459

Plumbing
Plan, Legend, Schedule and Specification

Revisions:

No.	Date	Description

Drawn By: J.J.D.
Checked By: J.J.D.
Approved By: G.W.
Drawing Scale: AS NOTED
Project Number: 09154.01
Date: September 08, 2011

BID SET

P1.0

SHEET 1 OF 1

FAN SCHEDULE

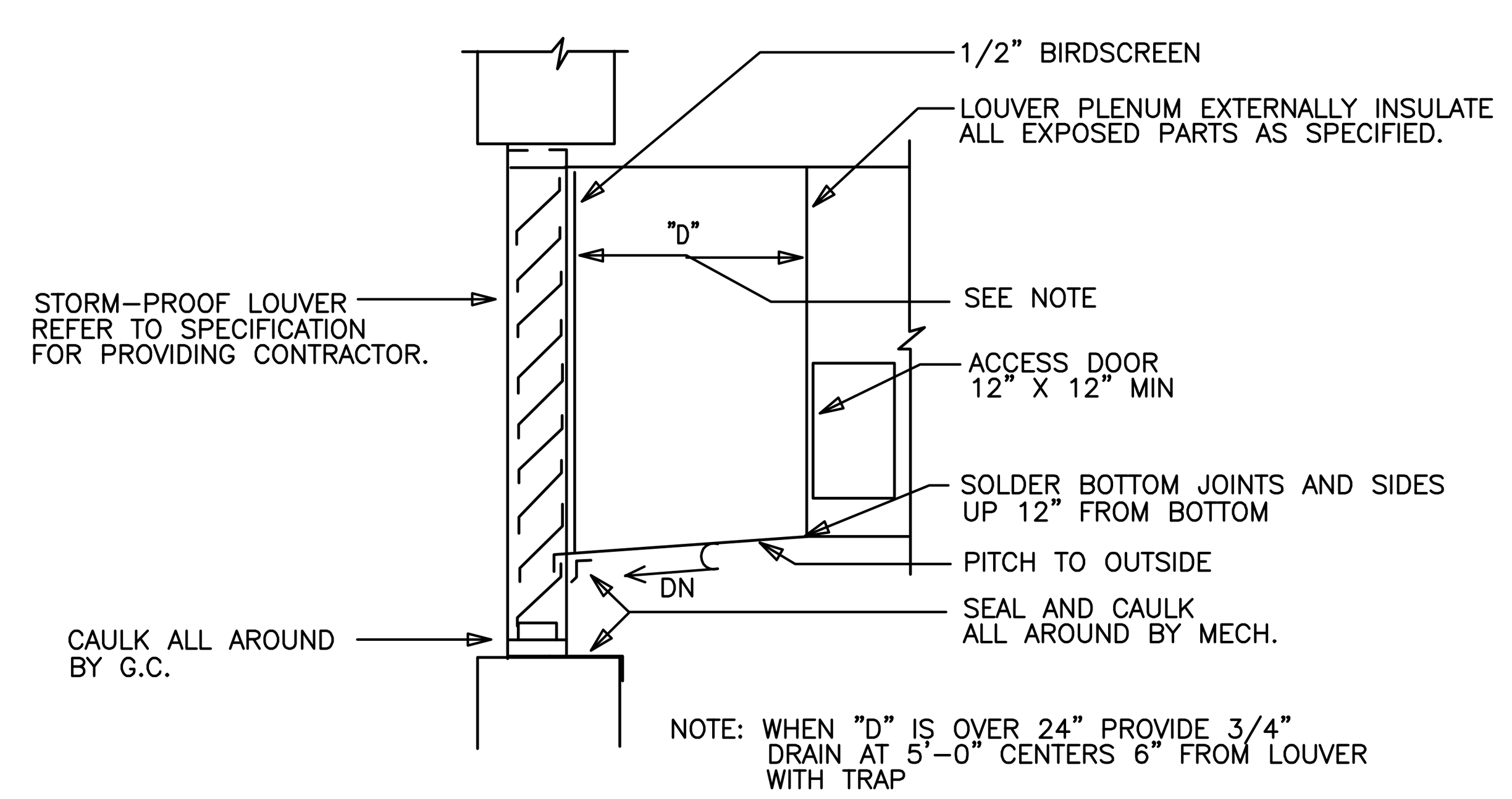
UNIT NO.	LOCATION	SYSTEM SERVED	FAN TYPE	AIR QUANTITY CFM	EXTERNAL STATIC PRESS. IN H_2O	SPEED MAX RPM	ELECTRICAL DATA HP	V	PH	HZ	OPER. WT. (LBS.)	MANUFACTURER & MODEL NO.	REMARKS
EF-1	SEE DRAWINGS	AIR EXHAUST	BELT	1,640	0.5	1725	3/4	120	1	60	83	GREENHECK BSQ-100-7	①②③④
SF-1	SEE DRAWINGS	AIR INTAKE	BELT	1,640	0.5	1725	3/4	120	1	60	83	GREENHECK BSQ-100-7	①②③④

① FAN SHALL BE SUPPLIED WITH ELECTRICAL DISCONNECT.
② INLINE FAN SHALL BE PROVIDED WITH VIBRATION ISOLATION MOUNTINGS.
③ FAN SHALL BE PROVIDED WITH A MOTORIZED DAMPER.
④ FAN SHALL BE PROVIDED WITH A WALL MOUNTED ON/OFF SWITCH/ CONTROLLER.

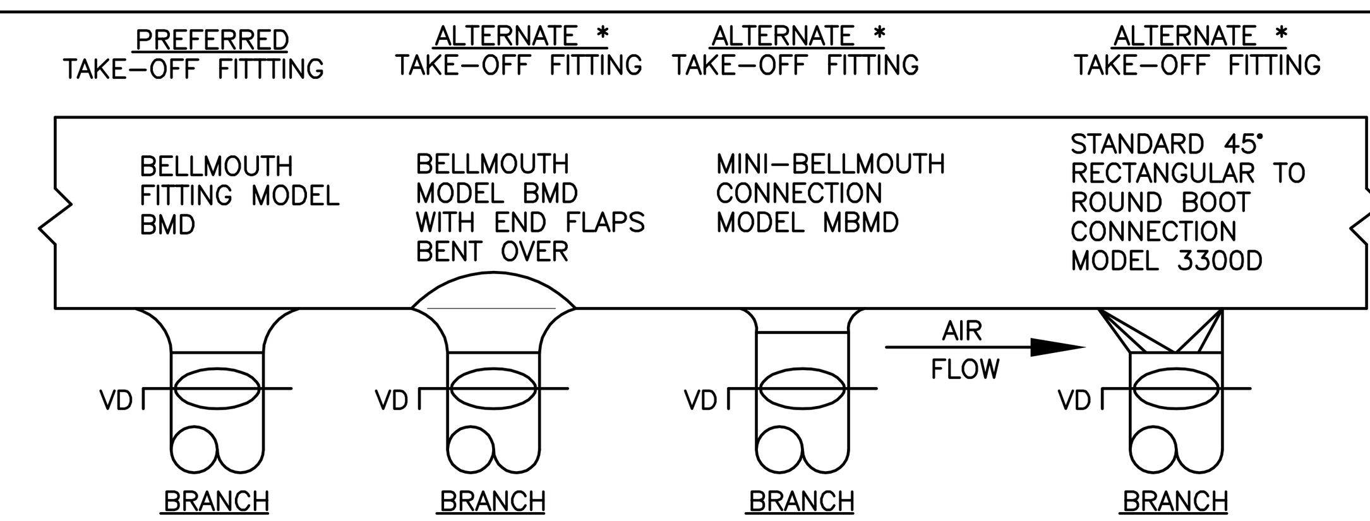
DIFFUSER, REGISTER & GRILLE SCHEDULE

SYMBOL	LISTED SIZE	NECK SIZE	CFM RANGE MIN.	CFM RANGE MAX.	OVERALL SIZE	SERVICE	VOLUME CONTROL DAMPER	MANUFACTURER & MODEL NO.	REMARKS
ER-1	SEE DWG'S	SEE DWG'S	SEE DWG'S	–	SEE DWG'S	RETURN	YES	TITUS 272RS	① ②
SD-#	SEE DWG'S	SEE DWG'S	SEE DWG'S	–	SEE DWG'S	SUPPLY	YES	TITUS TDCA-AA	① ② ③

① ALL DIFFUSER & REGISTERS SHALL BE SUPPLIED WITH BORDER TO SUIT ACTUAL INSTALLATION (I.E. T-BAR CEILING, SURFACE MOUNT IN GYPSUM WALL OR CEILING OR DUCT MOUNTING).
② ALL DIFFUSERS AND REGISTERS SHALL BE SUPPLIED WITH A VOLUME CONTROL DAMPER ACCESSIBLE THROUGH THE DIFFUSER.
③ # DENOTES THE BLOW PATTERN.



LOUVER CONNECTION DETAIL
NTS



DUCT SIZE	HOLE SIZE	MINIMUM DUCT HEIGHT
5"	8"	9"
6"	9"	10"
7"	10"	11"
8"	11"	12"
9"	12"	13"
10"	13"	14"
12"	15"	16"
14"	17"	18"
16"	19"	20"

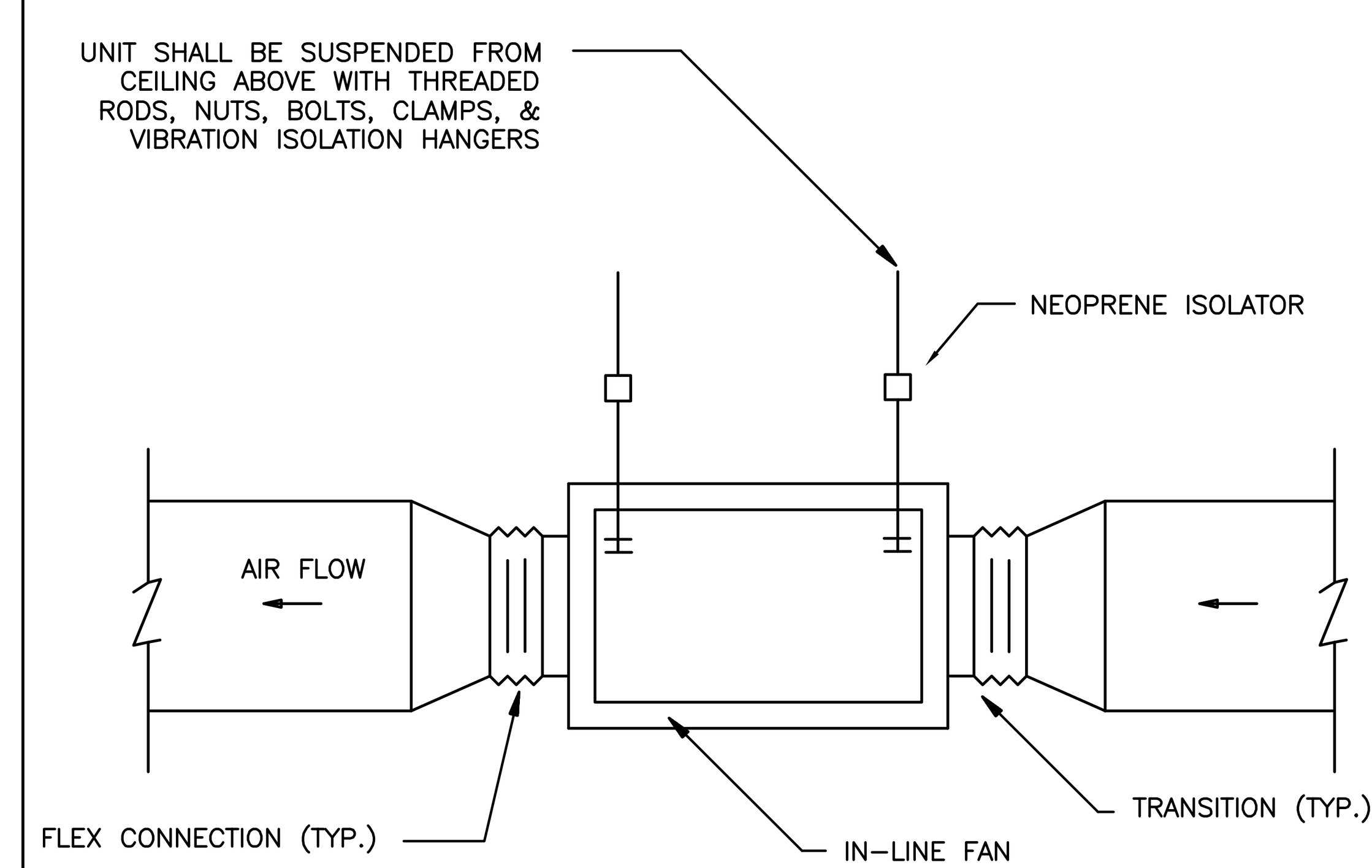
DUCT SIZE	HOLE SIZE	MINIMUM DUCT HEIGHT
5"	–	–
6"	7"	9"
7"	–	–
8"	9"	11"
9"	–	–
10"	11"	13"
12"	–	–
14"	–	–
16"	–	–

DUCT SIZE	HOLE SIZE	MINIMUM DUCT HEIGHT
5"	5"x10"	7"
6"	6"x12"	8"
7"	6"x12"	8"
8"	6.5"x12"	8.5"
9"	6.5"x14"	8.5"
10"	6.5"x16"	8.5"
12"	8.5"x18"	12"
14"	10"x20"	10.5"
16"	–	–

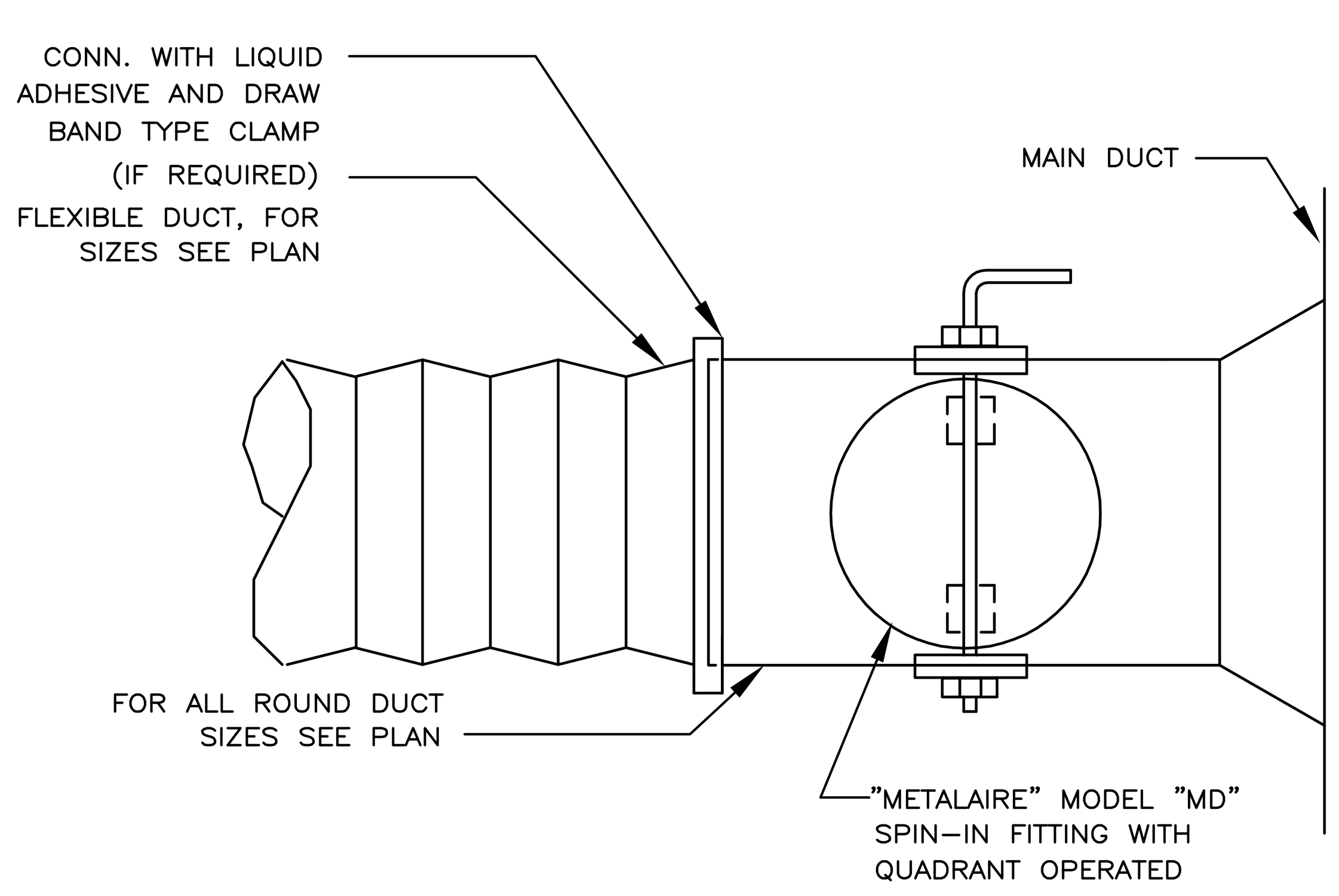
* ALTERNATE FITTINGS TO BE USED WHEN DUCT HEIGHT DOES NOT PERMIT THE USE OF THE FULL SIZE BELLMOUTH.

(NOTE: ALL FITTINGS MANUFACTURED BY BUCKLEY ASSOCIATES)

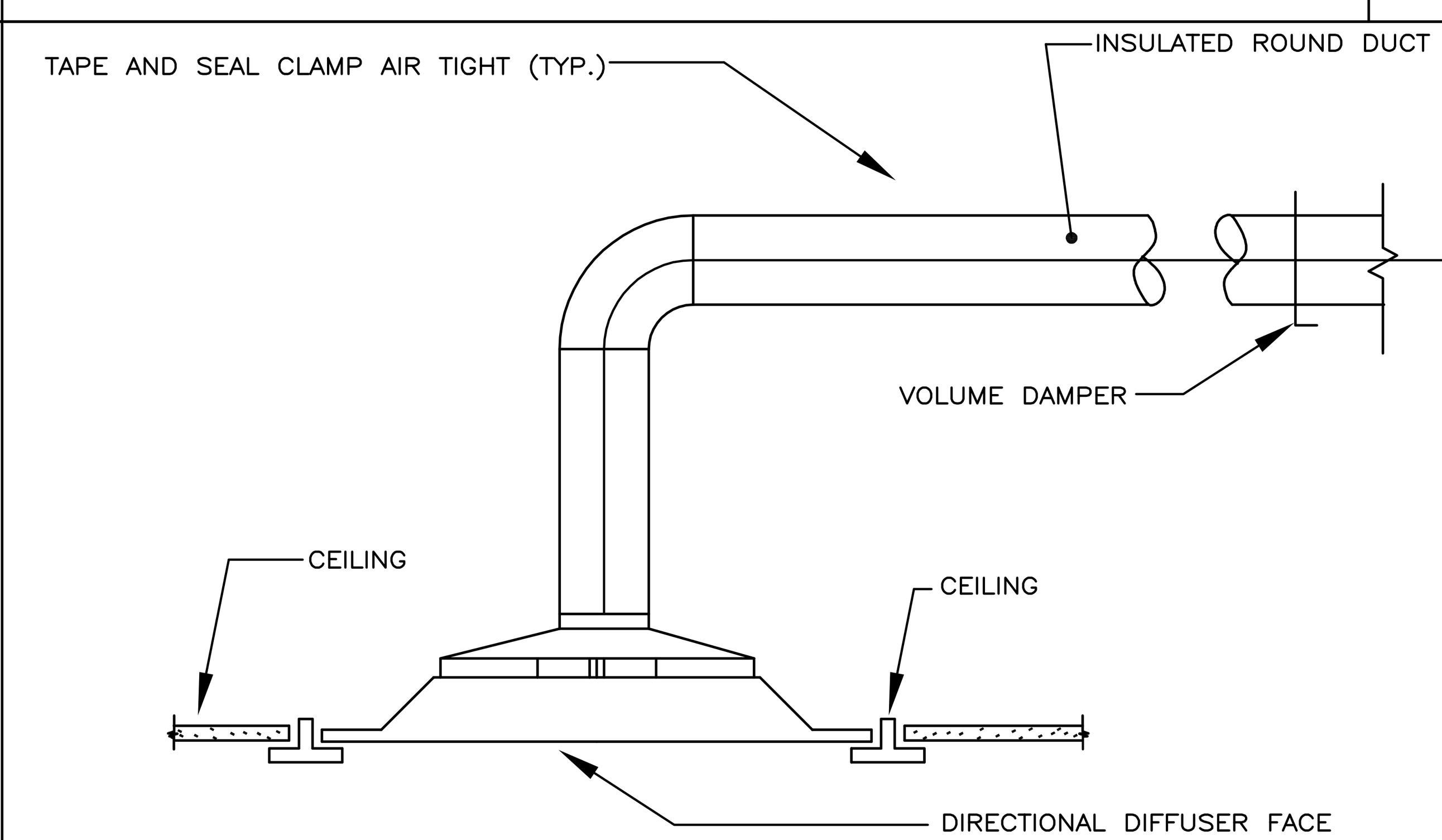
ALTERNATE ROUND BRANCH DUCT TAKE-OFF
NTS



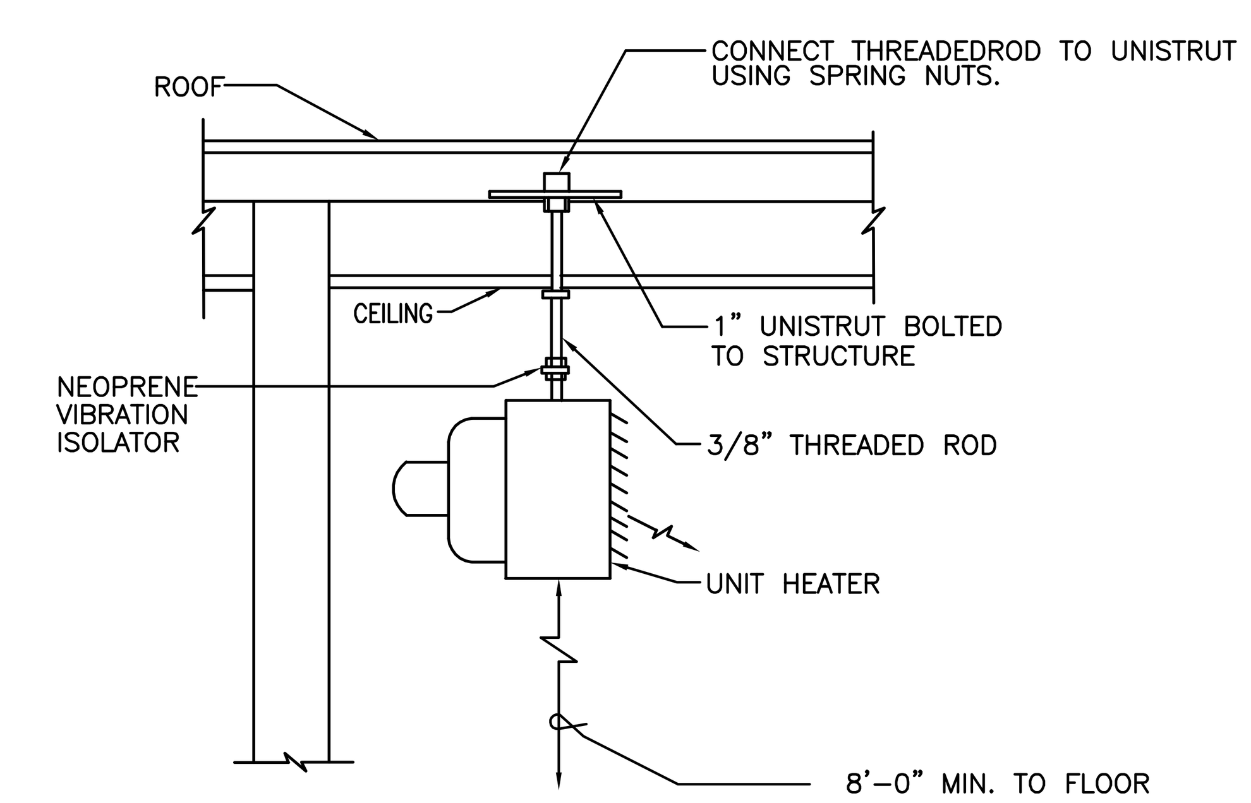
INLINE-FAN DETAIL
NTS



ROUND BRANCH DUCT TAKE-OFF DETAIL
NTS



DIFFUSER IN CEILING CONNECTION DETAIL
NTS



UNIT HEATER MOUNTING DETAIL
NTS

HVAC LEGEND

SYMBOL	DESCRIPTION
⊠	SUPPLY DIFFUSER
⧄	RETURN/EXHAUST GRILLE
◪	RETURN/EXHAUST DUCT RISE
⧓	SUPPLY DUCT RISE
◑	ROUND DUCT RISE
	RETURN GRILLE WITH ACOUSTIC BOOT
	ACOUSTICAL LINING SHOWN WITH DOUBLE LINE DUCT
	ACOUSTICAL LINING SHOWN WITH SINGLE LINE DUCT
VD	MANUAL VOLUME DAMPER
MD	MOTORIZED DAMPER
	LOUVERED DOOR
Ⓢ	SWITCH
AFF	ABOVE FINISHED FLOOR
BG	BLAST GATE DAMPER
CFM	CUBIC FEET PER MINUTE
C/W	COMPLETE WITH
DN	DOWN
EF	EXHAUST FAN
ER	EXHAUST GRILLE
ETR	EXISTING TO REMAIN
EUH	ELECTRIC UNIT HEATER
EXH	EXHAUST
NTS	NOT TO SCALE
OBD	OPPOSED BLADE DAMPER
TYP	TYPICAL
WMS	WIRE MESH SCREEN

HVAC Equipment Designations

SYMBOL	DESCRIPTION
(hexagon)	EQUIPMENT TAG DESIGNATION NOTE: THE HEXAGON SYMBOL SHALL BE USED FOR ALL EQUIPMENT CALLOUTS REQUIRING ELECTRICAL POWER HOOK-UP.
(square)	EQUIPMENT TAG DESIGNATION NOTE: THE SQUARE SYMBOL SHALL BE USED FOR ALL EQUIPMENT CALLOUTS THAT DO NOT REQUIRE ELECTRICAL POWER.
(square, three rows)	DIFFUSER TAG CFM AMOUNT NECK SIZE NOTE: THE SQUARE SYMBOL SHALL BE USED FOR ALL EQUIPMENT CALLOUTS THAT DO NOT REQUIRE ELECTRICAL POWER.

RDA architecture
Raymond Design Associates, Inc.
222 North Street
Hingham, MA 02043

Wozny/Barbar & Associates, Inc.

NEWTON SOUTH HIGH SCHOOL
FIELD FACILITY BUILDING
140 BRANDEIS ROAD
NEWTON CENTER MASSACHUSETTS 02459

Mechanical
Schedules, Details, Legend
& General Notes

Revisions:

No.	Date	Description

Drawn By: FKP
Checked By: FKP
Approved By: ZW

Drawing Scale: NONE

Project Number: 09154.01

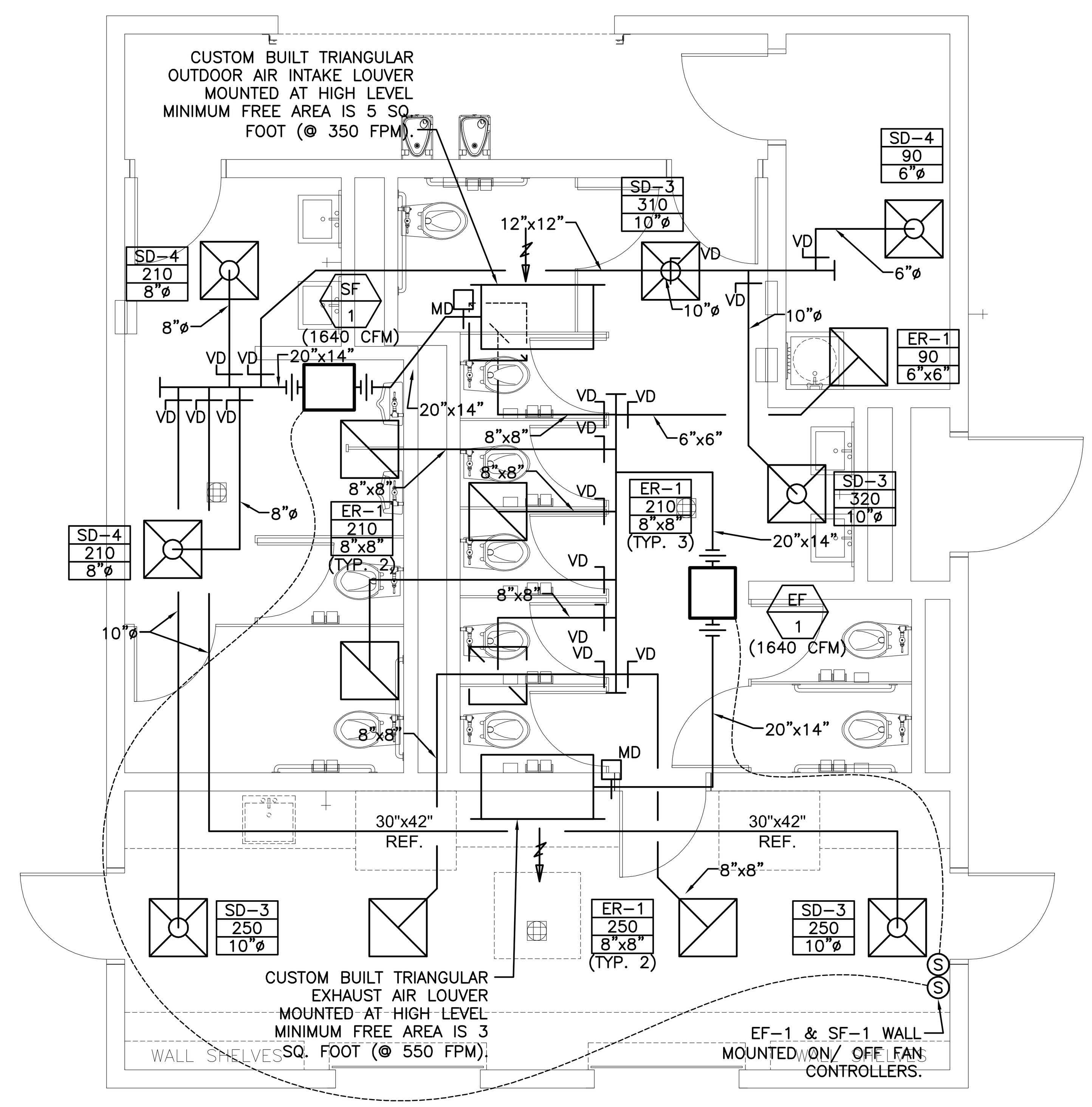
Date: September 08, 2011

BID SET

M1.1

GENERAL NOTES

1. ALL DUCTWORK SHALL BE RUN WITHIN THE ATTIC SPACE.
2. ALL FANS SHALL BE LOCATED WITHIN THE ATTIC SPACE.
3. AN ACCESS PANEL (MINIMUM 36"x36") SHALL BE PROVIDED TO ALLOW FOR MAINTENANCE OF EACH FAN.
4. ALL LOUVERS SHALL BE CUSTOM BUILT UNITS LOCATED IN THE GABLE WALLS OF THE BUILDING. THE UNITS SHALL BE APPROVED BY THE BUILDING OWNER AND ARCHITECT BEFORE THEY ARE PURCHASED.
5. ALL LOUVERS SHALL HAVE HAVE A MINIMUM FREE AREA AS INDICATED.



1 Floor Plan

Scale: 1/4"=1'-0"

RDA architecture

Raymond Design Associates, Inc.

222 North Street
Hingham, MA 02043

Wozny/Barbar & Associates, Inc.
CONSULTING ENGINEERS

NEWTON SOUTH HIGH SCHOOL
FIELD FACILITY BUILDING
140 BRANDEIS ROAD
NEWTON CENTER MASSACHUSETTS 02459

Mechanical
New Work Floor Plan

Revisions:

No.	Date	Description

Drawn By: FKP
Checked By: FKP
Approved By: ZW

Drawing Scale: AS NOTED

Project Number: 09154.01

Date: September 08, 2011

BID SET

M2.1

SHEET 2 OF 2

LIGHTING FIXTURES

SYMBOL	DESCRIPTION	NOTES
FP 1a	WALL OR CEILING MOUNTED LIGHTING FIXTURE	UPPER CASE LETTERS INDICATE FIXTURE TYPE. REFER TO FIXTURE SCHEDULE FOR MANUFACTURER. SUBSCRIPT LOWER CASE LETTERS INDICATE SWITCH CONTROL ASSOCIATIONS. SHADING OF FIXTURES THUS: (FR, FP) INDICATES FIXTURE ON NIGHT/EMERGENCY CIRCUIT OR EMERGENCY BATTERY BACK UP BALLAST WHERE APPLICABLE. CONTRACTOR SHALL CONFIRM LOCATION OF REMOTE EMERGENCY BALLAST WITH ARCHITECT PRIOR TO PURCHASE AND INSTALLATION. EMERGENCY BALLAST SHALL BE SIMILAR TO BODINE B30ST OR B30 WITH INTEGRAL INDICATOR LIGHT TEST SWITCH. PROVIDE 2 LAMP APPLICATION WHERE APPLICABLE. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE APPLICABLE TO CEILING, WALL, AND FLOOR TYPE INTO WHICH FIXTURE IS INSTALLED. CONTRACTOR SHALL COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL INTERIOR/EXTERIOR ELEVATIONS. CONTRACTOR SHALL COORDINATE AND CONFIRM K RATING OF LAMPS TO ACHIVE COLOR AS PER ARCHITECT
	EXTERIOR POLE MOUNTED FIXTURE	CONTRACTOR SHALL FURNISH AND SUPPLY ANY STEP DOWN TRANSFORMERS FOR ANY LOW VOLTAGE LIGHTING

EMERGENCY LIGHTING

SYMBOL	DESCRIPTION	NOTES
EB	EMERGENCY LIGHTING WITH BATTERY UNIT	ALL EMERGENCY BATTERY PACKS SHALL HAVE REMOTE HEAD CAPABILITY UNLESS NOTED OTHERWISE
	DUAL REMOTE EMERGENCY LIGHTING HEAD	
	SINGLE REMOTE EMERGENCY LIGHTING HEAD	

EXIT SIGNS

SYMBOL	DESCRIPTION	NOTES
WP 1	CEILING MOUNTED EXIT SIGN	ALL EXIT SIGNS SHALL BE FURNISHED WITH INTERNAL, 90 MINUTE BATTERY UNLESS NOTED OTHERWISE. APPLICATION OF SHADED QUADRANTS AND ARROWS THUS:
WP 1	WALL MOUNTED EXIT SIGN	INDICATE LETTERED FACE AND DIRECTIONAL CHEVERONS AS REQUIRED. UPPER CASE LETTERS INDICATE REFERENCE TO LIGHTING FIXTURE SCHEDULE. "WP" – INDICATES WEATHER PROOF. "XW" – INDICATES FIXTURE TYPE. "1" – INDICATES CIRCUIT NUMBER

WIRING DEVICES–SWITCHES

SYMBOL	DESCRIPTION	NOTES	
S_{WP}	SINGLE POLE SWITCH	20A 120–277V AC. "WP" – INDICATES WEATHER PROOF	SUBSCRIPT LOWER CASE LETTERS INDICATE SWITCH CONTROL ASSOCIATIONS. SUBSCRIPT UPPER CASE LETTERS DENOTE SWITCH TYPE AS LISTED IN NON-STANDARD SWITCHES. UNLESS NOTED OTHERWISE SWITCHES SHALL BE MOUNTED 48" TO CENTER LINE AFF
SP	SINGLE POLE SWITCH WITH PILOT LIGHT		
S2	DOUBLE POLE SWITCH		
S3	THREE-WAY SWITCH		
S4	FOUR-WAY SWITCH		
ST	SPRING WOUND INTERVAL TIME SWITCH	TORK OR EQUAL 30 MINUTE MAX	
D	LINEAR SLIDE BAR DIMMER SWITCH	1500W–120 VOLT RATING UNLESS NOTED OTHERWISE	
D3	LINEAR SLIDE BAR THREE WAY DIMMER SWITCH	1500W–120 VOLT RATING UNLESS NOTED OTHERWISE	
OS a,b	WALL MOUNTED OCCUPANCY SENSOR	WATT STOPPER OR EQUAL	SUBSCRIPT LOWER CASE LETTERS INDICATE SWITCH CONTROL ASSOCIATIONS
OS a,b	CEILING MOUNTED OCCUPANCY SENSOR	WATT STOPPER OR EQUAL	SUBSCRIPT LOWER CASE LETTERS INDICATE SWITCH CONTROL ASSOCIATIONS
	WALL MOUNTED EMERGENCY POWER OFF BUTTON		

LIGHTING CONTROL SYSTEM

SYMBOL	DESCRIPTION	NOTES
TC	7 DAY ASTRONOMICAL TIME CLOCK	TORK OR EQUAL
PC	WALL MOUNTED PHOTOCELL	
LC	LIGHTING CONTACTOR	
KS	KEY SWITCH LINE VOLTAGE	
MS	MASTER CONTROL SWITCH	

TELECOMMUNICATION SYSTEMS

SYMBOL	DESCRIPTION	NOTES
MHNC	MODULAR HOME NETWORK CENTER PROVIDE (1) DEDICATED 120V CIRCUIT & DOUBLE DUPLEX RECEPTACLE	PASS & SEYMOUR OR EQUAL
	WALL MOUNTED DATA OUTLET	4"x4" SQUARE OUTLET BOX WITH 1"C BACK TO TELEPHONE CLOSET. P – DENOTES PUBLIC PAY PHONE. W – DENOTES POWER FEED. F – DENOTES MODULAR FURNITURE BEZEL (2)VOICE,(2)DATA OUTLETS BY OTHERS
	WALL MOUNTED COMBINATION TEL/DATA OUTLET	
	WALL MOUNTED TEL OUTLET	
T	FIRE RATED FURNITURE FEED POKE THROUGH DEVICE FOR TEL/DATA CONNECTIONS TO ELECTRIFIED FURNITURE	
T	4" SQUARE OUTLET BOX WITH 1 1/2" GROMMETTED HOLE COVERPLATE FOR TEL/DATA CONNECTION TO ELECTRIFIED FURNITURE PARTITIONS, MOUNTED 8" AFF	
TV	WALL MOUNTED CABLE TV OUTLET	4"x4" SQUARE OUTLET BOX WITH 1" CONDUIT STUBBED 6" ABOVE ACCESSIBLE CEILING SEE ARCH PLAN FOR MOUNTING HEIGHT
TV	CEILING MOUNTED CABLE TV OUTLET	
—CT—	CABLE TRAY	12" WIDE, 4" DEEP, CENTER SPLINE EQUAL TO WIREMOLD SPECMATE. PROVIDE ALL CONNECTORS AND HARDWARE FOR INSTALLATION OF LAYOUT SHOWN

WIRING DEVICES – RECEPTACLES

SYMBOL	DESCRIPTION	NOTES
1	WALL DUPLEX CONVENIENCE OUTLET MTD 18" AFF	20A/125V, 2P, 3W, GNDG., NEMA 5-20R. SHADING OF SYMBOL THUS: INDICATES RECEPTACLE WITH EACH HALF SEPARATELY WIRED. (HALF CONSTANT HALF SWITCH CONTROLLED.) "1"– INDICATES CIRCUIT NUMBER. SUBSCRIPT LOWER CASE LETTERS INDICATE SWITCH CONTROL ASSOCIATIONS. SHADING OF SYMBOL THUS: INDICATES RECEPTACLE MTD 6" ABOVE COUNTER TO CENTER LINE OR 48" AFF UNLESS NOTED OTHERWISE. 'WP' – INDICATES WEATHER PROOF. 'GFI' DENOTES GROUND FAULT INTERRUPTING TYPE RECEPTACLE. ALL POWER OUTLET FACEPLATES SHALL BE LABELED WITH CIRCUIT NUMBER AND PANEL DESIGNATION FEEDING OUTLET
	CEILING MOUNTED DUPLEX CONVENIENCE OUTLET	
IG	ISOLATED GROUND DUPLEX CONVENIENCE OUTLET	
	WALL DOUBLE DUPLEX CONVENIENCE OUTLET	
H	HOSPITAL GRADE DUPLEX CONVENIENCE OUTLET	
	WALL MTD SINGLE CONVENIENCE OUTLET	
	WALL MOUNTED SPECIAL PURPOSE POWER RECEPTACLE	NUMERAL WITHIN SQUARE DENOTES RECEPTACLE TYPE AS LISTED IN SCHEDULE OF NON-STANDARD RECEPTACLES
P	FIRE RATED FURNITURE FEED POKE THRIUGH DEVICE FOR POWER CONNECTIONS TO ELECTRIFIED FURNITURE	
P	4" SQUARE OUTLET BOX TO OUTLETS LOCATED IN FURNITURE PARTITIONS (SEE FLOOR PLANS)	

WIRING DEVICES – MISCELLANEOUS

SYMBOL	DESCRIPTION	NOTES
PP	2 CHANNEL PWR/DATA POWER POLE WITH ELEC DEVICES AND PLATES	WIREMOLD AMDPT SERIES OR EQUAL
	2 PIECE SURFACE MTD RACEWAY WITH 20A DUPLEX RECEPTACLES SPACING AS SHOWN ON ELECTRICAL PLANS	WIREMOLD OR EQUAL
	2 PIECE MULTI-CHANNEL RACEWAY WITH 20A DUPLEX RECEPTACLES AND DATA OUTLETS SPACING AS SHOWN ON ELECTRICAL PLANS	WIREMOLD OR EQUAL
	FLUSH FLOOR MOUNTED POWER/DATA CONVIENCE RECEPTACLES	POKE THRU APPLICATION: 2 HOUR RATED. WIREMOLD RC SERIES OR EQUAL. COORDINATE FINAL POWER AND TEL/DATA TERMAINTIONS WITH TENANT. FLOOR TRENCH APPLICATION: DEEP RECTANGULAR CAST IRON BOX WIREMOLD OR EQUAL. PROVIDE 1"C FROM TEL/DATA TO 6" AFF. CONTRACTOR SHALL SUPPLY ALL COVERS AND FACE PLATES SPECIFIC TO SERIES

JUNCTION BOXES

SYMBOL	DESCRIPTION	NOTES
J	CEILING MOUNTED JUNCTION BOX	
J	WALL MOUNTED JUNCTION BOX	
J	SURFACE MOUNTED JUNCTION BOX	
J	FLUSH FLOOR MOUNTED JUNCTION BOX	
PB	PULL BOX	
J	JUNCTION BOX WITH FLEXIBLE CONNECTION TO EQUIPMENT	P – DENOTES POWER FEED. C – DENOTES COMMUNICATIONS FEED

MOTORS AND CONTROLS

SYMBOL	DESCRIPTION	NOTES	
	MOTOR	COMPLETE INFO. FOR MOTOR IS INDICATED BY APPLICATION OF INDEXING SYMBOLS REFERENCE TO SCHEDULE OF MECHANICAL EQUIPMENT	
	MAGNETIC MOTOR STARTER COMPLETE W/ THERMAL OVERLOAD PROTECTION	SUBSCRIPT INDICATES NEMA SIZE	COMPLETE INFORMATION FOR CONTROL ITEMS IS INDICATED BY THE APPLICATION OF INDEXING SYMBOL REFERENCE APPLIED TO ASSOCIATED EQUIP.
	MANUAL MOTOR STARTER (THERMAL OVERLOAD SWITCH)		
VFD	VARIABLE FREQUECY DRIVE	REFER TO HVAC SCHEDULE FOR MOTOR LOAD HORSEPOWER SIZE	
CP	CONTROL PANEL (MECHANICAL EQUIP)	FURNISHED AND INSTALLED BY OTHERS. WIRED BY THE ELECTRICAL CONTRACTOR	

DISTRIBUTION EQUIPMENT

SYMBOL	DESCRIPTION	NOTES
	SURFACE MOUNTED PANEL	
	FLUSH MOUNTED PANEL	
TVSS	SURGE SUPPRESSION	PROVIDE PER SPECIFICATIONS
T	TRANSFORMER	SEE ELECTRICAL PLANS FOR KVA RATING
	GROUNDING PER SPECIFICATION	
M	METER SOCKET AND METER	METER SOCKET PROVIDED BY CONTRACTOR PROVIDED BY LOCAL UTILITY CO.
	OVERCURRENT AND/OR SWITCHING DEVICE. "WP" – INDICATES WEATHER PROOF	COMPLETE INFORMATION FOR DEVICES IS INDICATED BY APPLICATION OF TAG SYMBOLS. 30 – INDICATES UNFUSED SWITCH, 30 – FRAME SIZE. 30/15 – INDICATES FUSED SWITCH, 30 – FRAME SIZE, 15 – FUSE SIZE. CB – INDICATES ENCLOSED CIRCUIT BREAKER. 30/15 – INDICATES COMBINATION FUSED SWITCH AND STARTER, 30 – FRAME SIZE, 15 – FUSE SIZE. CB – INDICATES COMBINATION ENCLOSED CIRCUIT BREAKER AND STARTER. INDICATES BY OTHERS

BRANCH CIRCUITRY

SYMBOL	DESCRIPTION	NOTES
	LIGHTING AND APPLIANCE BRANCH CIRCUITRY CONCEALED ABOVE	ARROW HEAD INDICATES HOME RUN CIRCUITRY TO 20A-1P CIRCUIT BREAKER (UNLESS NOTED OTHERWISE). NUMBER OF ARROW HEADS INDICATE NUMBER OF BRANCH POLES REQUIRED IN PANEL. CROSS MARKS INDICATE NUMBER OR NO. 12 WIRES IN 3/4" CONDUIT PLUS GROUND. ABSENCE OF CROSSMARKS INDICATES 2#12, 1#12 GROUND
	LIGHTING AND APPLIANCE BRANCH CIRCUITRY CONCEALED BELOW	HOME RUNS ARE INDICATED THUS: LL2 – 1, 3, 5
	LIGHTING AND APPLIANCE BRANCH RUN EXPOSED	
	INDIVIDUAL RUN TURNING UP	"LL2" DENOTES PANEL DESIGNATION. "1,3,5" DENOTES CIRCUIT NO'S 1,3,5 CONTAINING 20A. 1P. CB'S IN PANELBOARD
	INDIVIDUAL RUN TURNING DOWN	CONDUIT RUNS REQUIRING CIRCUIT BREAKER GREATER THAN 20A-1P WIRE SIZE GREATER THAN NO. 12 AND CONDUIT SIZE GREATER THAN 3/4" ARE NOTED THUS: LL2–1, 3, 5 50A 3P 4 #4, 1 #8 GROUND 1-1/4" CONDUIT
	INDIVIDUAL RUN TURNING UP&DOWN	

GENERAL CIRCUITRY

SYMBOL	DESCRIPTION	NOTES
	BUSWAY	
	CIRCUIT BREAKER BUS PLUG, BREAKERS AS INDICATED	
	BUSWAY FEED/ LUG CONNECTION	
-PE-	IDENTIFICATION OF INDIVIDUAL RUN OTHER THAN BRANCH CIRCUITRY OR SECONDARY FEEDERS	PE – PRIMARY ELECTRIC. SE – SECONDARY ELECTRIC. TEL – TELEPHONE. TV – TELEVISION. CATV – CABLE TELEVISION. E – EMERGENCY

SECONDARY FEEDERS

SYMBOL	DESCRIPTION	NOTES
	FEEDER RUN CONCEALED ABOVE	ARROW HEAD INDICATES HOME RUN TO PANEL BOARD
	FEEDER RUN CONCEALED BELOW	FEEDER SIZING SHOWN ON POWER RISER DIAGRAM
	FEEDER RUN AS PER SPECIFIC NOTATION	

TAG SYMBOLS

SYMBOL	DESCRIPTION	NOTES
	INDEX SYMBOL	HEXAGONAL SYMBOLS CONTAINING TWO UPPER CASE LETTERS INDICATE REFERENCE TO A SCHEDULE OF SPECIAL EQUIPMENT. HEXAGONAL SYMBOLS CONTAINING UPPER CASE LETTERS AND NUMERICALS INDICATE REFERENCE TO SCHEDULE OF MECHANICAL EQUIPMENT. HEXAGONAL SYMBOLS CONTAINING NUMERICALS ONLY INDICATE REFERENCE TO AN EXPLANATION OF ELECTRICAL WORK REQUIREMENT
	GANGING CROSS REFERENCE	THE NOTED INDICATION ADJACENT TO A DEVICE DENOTES THAT THE DEVICE IS TO BE GANGED IN A BOX WITH ANOTHER DEVICE SIMILARLY NOTED AT THE SAME LOCATION ON ANOTHER DRAWING
( )	SPECIAL MOUNTING HEIGHT INDICATIONS	DIMENSION NOTED IN PARENTHESIS ADJACENT TO ANY ITEM OF THE DRAWINGS INDICATES THE HEIGHT OF IT'S HORIZONTAL CENTERLINE ABOVE FINISHED FLOOR
*	MOUNTING HEIGHT REFERENCE TO ARCHITECTURAL DRAWINGS	
	LINE INDICATING PHYSICAL SIZE OF ELECTRICAL ITEMS	INDICATION USED CIRCUMSCRIBING OTHER SYMBOLS TO DELINEATE PHYSICAL SIZE
	DETAIL TITLE ANNOTATION INDICATING DETAIL NUMBER	
	WIRING DEVICE GANGING SYMBOL	GANGING SYMBOL SHOWN IN CIRCUITRY RUN IN COMBINATION WITH ANY WIRING DEVICE SYMBOL THUS: DENOTES WIRING DEVICES WHICH ARE TO BE GANGED IN A COMMON PLATE OUTLET

NURSE / EMERGENCY CALL SYSTEMS

SYMBOL	DESCRIPTION	NOTES
NC	NURSE CALL PATIENT PULL CHORD	
NC	NURSE CALL PATIENT DOME LIGHT	
NC	NURSE CALL DUTY STAFF STATION	
NCAP	NURSE CALL ANNUNCIATOR PANEL	
EC	EMERGENCY CALL PULL CHORD	
EC	EMERGENCY CALL DOME LIGHT	
EC	EMERGENCY CALL REMOTE STATION	
ECCP	EMERGENCY CALL COMMUNICATION PANEL	

FIRE ALARM SYSTEM

SYMBOL	DESCRIPTION	NOTES
F	MANUAL FIRE ALARM PULL STATION	
	FIRE FIGHTER FIRE EMERG PHONE	
	VISUAL ONLY FIRE ALARM DEVICE	
	COMBINATION AUDIO AND VISUAL FIRE ALARM DEVICE	
C	CEILING MOUNTED AUDIO AND VISUAL FIRE ALARM DEVICE	
S	WALL MOUNTED FIRE ALARM SPEAKER	
S	WALL MOUNTED FIRE ALARM SPEAKER AND STROBE	
M	WALL MOUNTED MINI-HORN	
M	WALL MOUNTED FIRE ALARM MINI-HORN & STROBE	
F	FIRE ALARM MASTER BOX	
K	KNOX BOX	
B	ROTATING FIRE ALARM BEACON LIGHT	
EB	ELECTRIC BELL PROVIDE (1) DEDICATED 120V CIRCUIT	
FACP	FIRE ALARM CONTROL PANEL	S – COMBINATION SMOKE DETECTOR/ VISUAL ALARM FOR HEARING IMPAIRED.
FAA	FIRE ALARM ANNUNCIATOR PANEL	H – COMBINATION HEAT DETECTOR/ VISUAL ALARM FOR HEARING IMPAIRED.
RTS	REMOTE TEST STATION	CO – CEILING MOUNTED CARBON MONOXIDE DETECTOR
RI	REMOTE INDICATOR ALARM DEVICE	CO – WALL MOUNTED CARBON MONOXIDE DETECTOR
S	SMOKE DETECTOR	DETECTOR TYPE SUBSCRIPT: L LOCAL 120V DETECTOR; R RECEIVER UNIT; T TRANSMITTER UNIT; D IN DUCT DETECTOR; E ELEVATOR RECALL; B BEAM TYPE PHOTOELECTRIC; SA SUPPLY AIR DUCT DETECTOR; RA RETURN AIR DUCT DETECTOR; CO COMBINATION SMOKE/CARBON MONOXIDE DETECTOR
H	HEAT DETECTOR	
S / H	WALL MOUNTED SMOKE OR HEAT DETECTOR	
FS / TS / PS	SPRINKLER SYSTEM MONITOR. FS WATER FLOW; TS TAMPER SWITCH; PS DRY ALARM PRESSURE SWITCH	MONITOR TYPE: MM MONITORING MODULE; CM CONTROL MODULE
DH	MAGNETIC DOOR HOLDER	PROVIDE CONNECTION TO DOOR HARDWARE INTEGRAL HOLDERS
SK	SMOKE EXHAUST FAN KEY SWITCH	
I	ADDRESSABLE CONTROL OR MONITOR MODULE	MODULE SUBSCRIPT TYPE: C CONTROL MODULE; M MONITOR MODULE

EXISTING ELECTRICAL EQUIPMENT

SYMBOL	DESCRIPTION	NOTES
ETR	EXISTING TO REMAIN	ALL EXISTING TO REMAIN LIGHTING SHALL BE CLEANED AND RELAMPED. CONTRACTOR SHALL VERIFY THAT ALL EXISTING TO REMAIN ELECTRICAL DEVICES ARE OPERATIONAL & FUNCTIONAL. IF ETR DEVICES ARE NOT OPERATIONAL, IT SHALL BE REPLACED WITH A NEW DEVICE OF THAT TYPE. ALL REPLACED DEVICES SHALL MATCH EXISTING
X	EXISTING EQUIPMENT TO BE REMOVED	
XR	EXISTING EQUIPMENT TO BE REMOVED AND RELOCATED	CONTRACTOR SHALL EXTEND AND CONNECT EXISTING WIRING TO NEW LOCATION OF RELOCATED EQUIPMENT. CONTRACTOR SHALL REPLACE EXISTING WIRING BACK TO SOURCE IF NECESSARY IF EXISTING WIRING DOES NOT REACH RELOCATED EQUIPMENT. CONTRACTOR SHALL EVALUATE CONDITION OF EXISTING WIRING AND REPLACE IF NECESSARY.
RX	NEW LOCATION OF RELOCATED EXISTING EQUIPMENT	
RR	REMOVE EXISTING DEVICE AND REINSTALL NEW DEVICE IN SAME LOCATION	
	DOTTED DENOTES EXISTING ELECTRICAL EQUIPMENT	

SECURITY/INTERCOM/ACCESS SYSTEMS

SYMBOL	DESCRIPTION	NOTES
DB PB	DOOR BELL PUSH BUTTON	EXTERIOR APPLICATION: EDWARDS OR EQUAL
DB C	DOOR BELL CHIME/BELL	
CR	CARD READER	
KP	KEY PAD	
DC	DOOR CONTACT	
ES	ELECTRIC DOOR STRIKE	
LA	LOCAL DOOR ALARM	
VC	INTERCOM SPEAKER VOLUME CONTROL	
IS	INTERCOM STATION TALK/ACCESS	
INTP	MAIN INTERCOM PANEL	
MD	WALL MOUNTED MOTION DETECTOR	
MD	CEILING MOUNTED MOTION DETECTOR	
SP	CEILING MOUNTED PUBLIC ADDRESS SPEAKER	
CCTV	CLOSED CIRCUIT TELEVISION CAMERA	
SCP	SECIRUTY CONTROL PANEL	
IAP	INTRUSION ALARM PANEL	
HC	HANDICAP ACCESS PUSH BUTTON	ARA – AREA OF RESCUE ASSISTANCE INDICATOR LIGHT W/ BATTERY BACKUP SIMILAR TO HOUSING DEVICES. RB – AREA OF RESCUE SYSTEM SIMILAR TO HOUSING DEVICES ADA 1000 PHONE LINE.

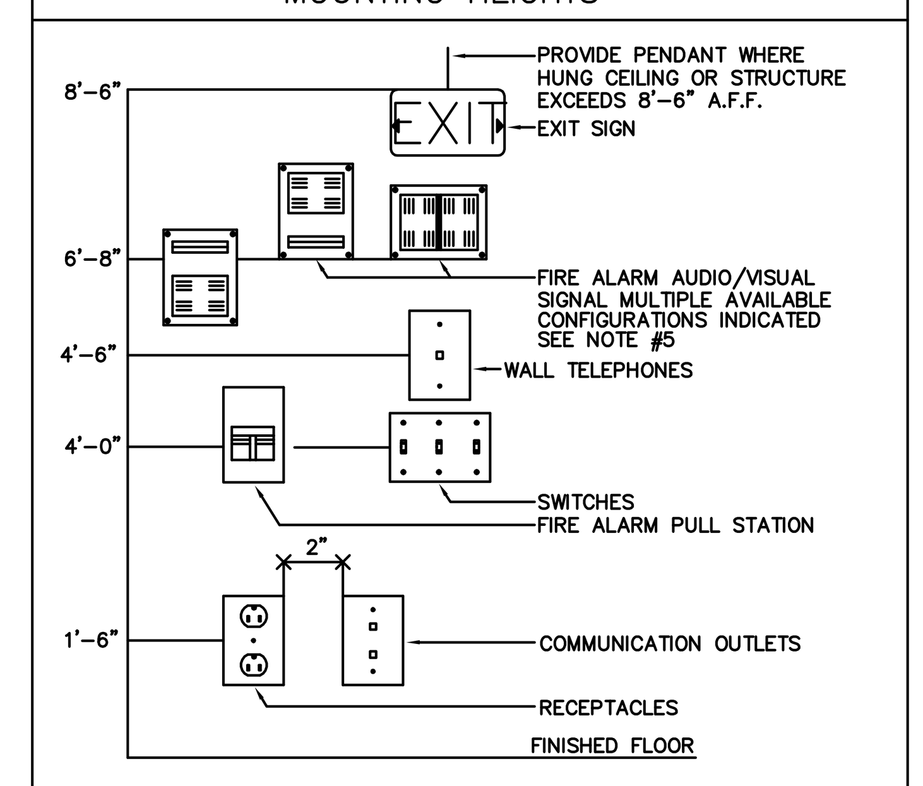
GENERAL NOTES

1. ALL CONDUITS AND EQUIPMENT SHALL BE INSTALLED AND GROUND IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE APPLICABLE LOCAL AND NATIONAL CODES.
2. CONDUIT RUNS ARE SHOWN DIAGRAMATICALLY ONLY AND SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS. EXPOSED CONDUITS SHALL BE INSTALLED PARRALEL TO BEAMS AND WALLS. EMPTY CONDUITS SHALL HAVE NYLON PULL LINE
3. CONDUITS SHALL BE TERMINATED SO AS TO PERMIT NEAT CONNECTIONS TO MOTORS AND OTHER EQUIPMENT.
4. NO CONDUIT SMALLER THAN 3/4", NOR WIRE SIZE SMALLER THAN NO. 12 A.W.G. FOR POWER SHALL BE USED UNLESS OTHERWISE NOTED.
5. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF THE WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE CONSTRUCTION MANAGER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.
6. SWITCHES SHALL BE MOUNTED 4'–0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. RECEPTACLES SHALL BE MOUNTED 18" AFF
7. ALL SURFACE MOUNTED PANELS AND PANELBOARDS ON THE INSIDE OF EXTERIOR WALLS ABOVE GRADE OR IN OTHER LOCATIONS CONSIDERED AS DAMP, SHALL BE MOUNTED SO AS TO MAINTAIN A 1/4" AIR SPACE BETWEEN THE ENCLOSURE AND THE WALL.
8. ALL PANELBOARDS SHALL BE MOUNTED SO THAT THE DISTANCE FROM THE TOP CIRCUIT BREAKER OPERATING HANDLE TO THE FLOOR SHALL NOT EXCEED 6'–6"
9. LIGHTING FIXTURES SHALL BE MOUNTED ACCORDING TO THE MOUNTING HEIGHT GIVEN ON THE DRAWINGS, WITH THE DISTANCE BEING MEASURED FROM THE BOTTOM OF THE LIGHTING FIXTURE TO THE FINISHED FLOOR.
10. FOR LOCATION OF HVAC, PLUMBING, FIRE PROTECTION, AND MISCELLANEOUS EQUIPMENT SEE RESPECTIVE TRADE DRAWINGS.
11. ALL CONDUIT RUNS CROSSING EXPANSION JOINTS SHALL HAVE EXPANSION OR EXPANSION AND DEFLECTION TYPE FITTINGS AS REQUIRED. FOR EXACT LOCATIONS OF EXPANSION JOINTS SEE STRUCTURAL DRAWINGS.
12. ALL MOTOR STARTER CONTROL TRANSFORMERS SHALL BE SIZED TO PROVIDE SUFFICIENT VOLT-AMPERE CAPACITY FOR OPERATING ALL ELECTRICAL DEVICES ASSOCIATED WITH CONTROL OF THE MOTOR, IN ADDITION TO THE STARTER COIL. IT SHALL INCLUDE RELAYS, TIMERS, MOTOR HEATERS, INDICATING LIGHTS, ETC.
13. CONDUIT AND WIRE (NOT SHOWN) FOR FIXTURES, SWITCHES AND/OR RECEPTACLES SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AND SHALL BE:
    a. 3/4" (MIN.) CONDUIT RUN
    1. EXPOSED IN UNFINISHED AREAS.
    2. CONCEALED ABOVE HUNG CEILINGS AND IN WALLS IN FINISHED AREAS.
    b. NO.12 (MIN.) Cu WIRE (MIN.) TYPE "THWN/THNN" NO. OF WIRES AS REQUIRED.
14. FOR EQUIPMENT PAD CONSTRUCTION DETAILS SEE STRUCTURAL DRAWINGS.
15. ALL 120V BRANCH CIRCUITS GREATER THAN 100 LINEAR FEET SHALL BE #10AWG MIN.
16. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LAYOUTS FOR ALL ELECTRICAL ROOMS BASED ON ACTUAL EQUIPMENT OF MANUFACTURER SELECTED, SUBMIT FOR REVIEW PRIOR TO INSTALLATION.
17. PROVIDE ELECTRICAL OUTLET PLATE GASKET SEALS AT RECEPTACLES, SWITCHES AND OTHER ELECTRICAL BOXES ON EXTERIOR WALLS AND ON INTERIOR WALLS BETWEEN CONDITIONED AND NON-CONDITIONED SPACES.
18. THE ELECTRICAL CONTRACTOR SHALL SUBMIT A PLAN FOR APPROVAL SHOWING ALL ELECTRICAL TELEPHONE, SECURITY, FIRE ALARM, COMMUNICATION AND OTHER SYSTEMS CONDUITS IN SLAB AND ABOVE CEILING ETC.. COORDINATE WITH OTHER TRADES AND BUILDING'S STRUCTURE TO AVOID ANY CONFLICT.
19. ALL TERMINATION LUGS SHALL BE SIZED ACCORDINGLY TO ACCOMMODATE INDICATED CONDUCTORS.
20. THE ELECTRICAL CONTRACTOR SHALL SUBMIT PLANS FOR APPROVAL SHOWING ALL COMMUNICATIONS EQUIPMENT AND DEVICES THROUGHOUT THE BUILDING. THE ELECTRICAL CONTRACTOR SHALL ALSO LABEL AND IDENTIFY ALL CONDUITS THAT SERVE DIFFERNT SYSTEMS.
21. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL LIGHT FIXTURES.
22. COORDINATE LOCATIONS OF ALL LIGHT FIXTURES IN MECHANICAL AND ELECTRICAL ROOMS WITH LAYOUT OF EQUIPMENT, PIPING AND DUCTWORK.
23. ALL EXIT SIGNS SHALL BE UNSWITCHED.
24. ALL SWITCHED LIGHT FIXTURES CIRCUITED TO A NORMAL/EMERGENCY CIRCUIT ARE TO BE WIRED WITH AN EMERGENCY BY-PASS RELAY.
25. ALL 20 AMPERE, SINGLE POLE CIRCUITS SHALL BE PROVIDED WITH A SEPARATE FULL SIZE NEUTRAL CONDUCTOR.
26. CONFIRM EXACT POWER REQUIREMENTS AND CONNECTION LOCATIONS FOR ALL EQUIPMENT WITH THE PLUMBING, FIRE PROTECTION, HVAC AND GENERAL CONTRACTOR
27. PROVIDE AN SOU KIT FOR ALL MECH EQUIPMENT RATED LESS THAN 1/2HP (TYP)
28. CERTAIN SYMBOLS IN THE SYMBOL LIST DO NOT APPEAR ELSEWHERE IN THE DRAWINGS. SUCH SYMBOLS ARE INCLUDED TO PERMIT INTERPRETATIONS TO BE MADE IN THE EVENT OF DESIGN CHANGES.
29. ELECTRICAL CONTRACTOR SHALL MAINTAIN RATING OF ANY CEILING, WALL, FLOOR OR ANY BUILDING STRUCTURE THAT ANY ELECTRICAL SYSTEM PENETRATES. SEE ARCHITECTURAL PLAN FOR RATINGS.

ABBREVIATIONS

ABBR	ABBREVIATIONS		
A/AMP	AMPERE	L	LENGTH
AC	ALTERNATING CURRENT	LA	LIGHTNING ARRESTOR
A/C	AIR CONDITIONING	LP	LIGHTING PANEL
AFF	ABOVE FINISHED FLOOR	LTG	LIGHTING
AFG	ABOVE FINISHED GRADE	LV	LOW VOLTAGE
ARCH	ARCHITECTURAL	M	METER
ATC	AUTOMATIC TEMPERATURE CONTROL	MM	MILLIMETER
ATS	AUTOMATIC TRANSFER SWITCH	MCB	MAIN CIRCUIT BREAKER
AUTO	AUTOMATIC	MEC	MASS ELECTRIC COMPANY
BAT	BATTERY	MECH	MECHANICAL
BECO	BOSTON EDISON COMPANY	MFR	MANUFACTURER
BIS	BYPASS ISOLATOR SWITCH	MLO	MAIN LUG ONLY
C	CONDUIT	MISC	MISCELLANEOUS
CATV	CABLE TELEVISION	MTD	MOUNTED
CAB	CABINET	N	NEUTRAL
CB	CIRCUIT BREAKER	N/C	NORMALLY CLOSED
CEC	COMMONWEALTH ELEC. CO.	NEC	NATIONAL ELECTRIC CODE
CCTV	CLOSED CIRCUIT TELEVISION	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CKT	CIRCUIT	NIC	NOT IN CONTRACT
CL	CENTERLINE	NL	NIGHT LIGHTING CKT
CM	CENTIMETER	N/O	NORMALLY OPEN
CLG	CEILING	NO	NUMBER
CO	COMPANY	OC	ON CENTER
COL	COLUMN	O/C	OVERCURRENT
C/T	CURRENT TRANSFORMER	OL	OVERLOAD
CW	COOL WHITE	PB	PULL BOX
DET	DETAIL	PH	PHASE
DIA	DIAMETER	PNL	PANEL
DISC	DISCONNECT	PP	PUMP
DN	DOWN	PRI	PRIMARY
DP	DISTRIBUTION PANEL	P/T	POTENTIAL TRANSFORMER
DPDT	DOUBLE POLE DOUBLE THROW	PVC	POLYVINYL CHLORIDE
DPST	DOUBLE POLE SINGLE THROW	PWR	POWER
DT	DUST TIGHT	RECEPT	RECEPTACLE
DWG	DRAWING	REC	RECESSED
EA	EACH	RPA	RELAY PANEL
EC	ELECTRICAL CONTRACTOR	SEC	SECONDARY
EL	ELEVATION	SP	SPARE
ELEC	ELECTRIC	SPECS	SPECIFICATIONS
ELEV	ELEVATOR	SPKLR	SPRINKLER
ES	ENERGY SAVING	SW	SWITCH
FDR	FEEDER	TB	TERMINAL BOARD
FLR	FLOOR	TEL	TELEPHONE
FLUO	FLUORESCENT	TV	TELEVISION
GEN	GENERATOR	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
GFI	GROUND FAULT INTERRUPTER	TYP	TYPICAL
GFP	GROUND FAULT PROTECTOR	U.N.O.	UNLESS NOTED OTHERWISE
GND	GROUND	V	VOLTS
HC	HUNG CEILING	VA	VOLT AMPERAGE
HGT	HEIGHT	VAC	VACUUM
HID	HIGH INTENSITY DISCHARGE LAMP	VENT	VENTILATING
HO	HIGH OUTPUT	VFD	VARIABLE FREQUENCY DRIVE
HP	HORSE POWER	VT	VAPOR TIGHT
HPS	HIGH PRESSURE SODIUM	W	WATT ON WIRE
HVAC	HEATING, VENTILATION AND AIR CONDITIONING	W/	WITH
HZ	HERTZ	WP	WEATHERPROOF
HV	HIGH VOLTAGE		
IN	INCHES		
INCAND	INCANDESCENT		
JB	JUNCTION BOX		
KV	KILOVOLT		
KVA	KILOVOLT-AMPERES		
KW	KILOWATT		

MOUNTING HEIGHTS



NOTES

1.) ALL MOUNTING HEIGHTS SHALL BE MEASURED FROM FINISHED FLOOR TO CENTERLINE OF DEVICE EXCEPT EXIT SIGNS
2.) DEVICES SHALL BE INSTALLED ON A COMMON VERTICAL CENTERLINE WHEREVER POSSIBLE.
3.) ALL DEVICES SHALL BE INSTALLED AT MOUNTING HEIGHTS AS INDICATED ON THIS DETAIL UNLESS OTHERWISE NOTED.
4.) REFER TO THE ARCHITECTS ELEVATION DETAILS FOR EXACT HEIGHT AND LENGTH OF SURFACE RACEWAYS.
5.) THE ENTIRE LENS OF A FIRE ALARM A/V SIGNAL OR VISUAL-ONLY SIGNAL SHALL BE LOCATED ABOVE 6'–8" A.F.F. OR 6" BELOW CEILING WHICHEVER IS LOW.
6.) ALL LOAD CENTERS LOCATED WITHIN HANDICAPPED UNITS SHALL BE MOUNTED WITH BREAKER A MAXIMUM OF 54" A.F.F.

RDA architecture
Raymond Design Associates, Inc.
222 North Street
Hingham, MA 02043

Wozny/Barbar & Associates, Inc.
CONSULTING ENGINEERS
1090 Washington Street, Hanover, MA 02339, Tel: (781) 826-4144, Fax: (781) 829-5023, www.wbaengineers.com
65 Dexter Road, Providence, RI 02914, Tel: (401) 438-1635, Fax: (401) 438-0850

NEWTON SOUTH HIGH SCHOOL
FIELD FACILITY BUILDING
140 BRANDEIS ROAD
NEWTON CENTER MASSACHUSETTS 02459

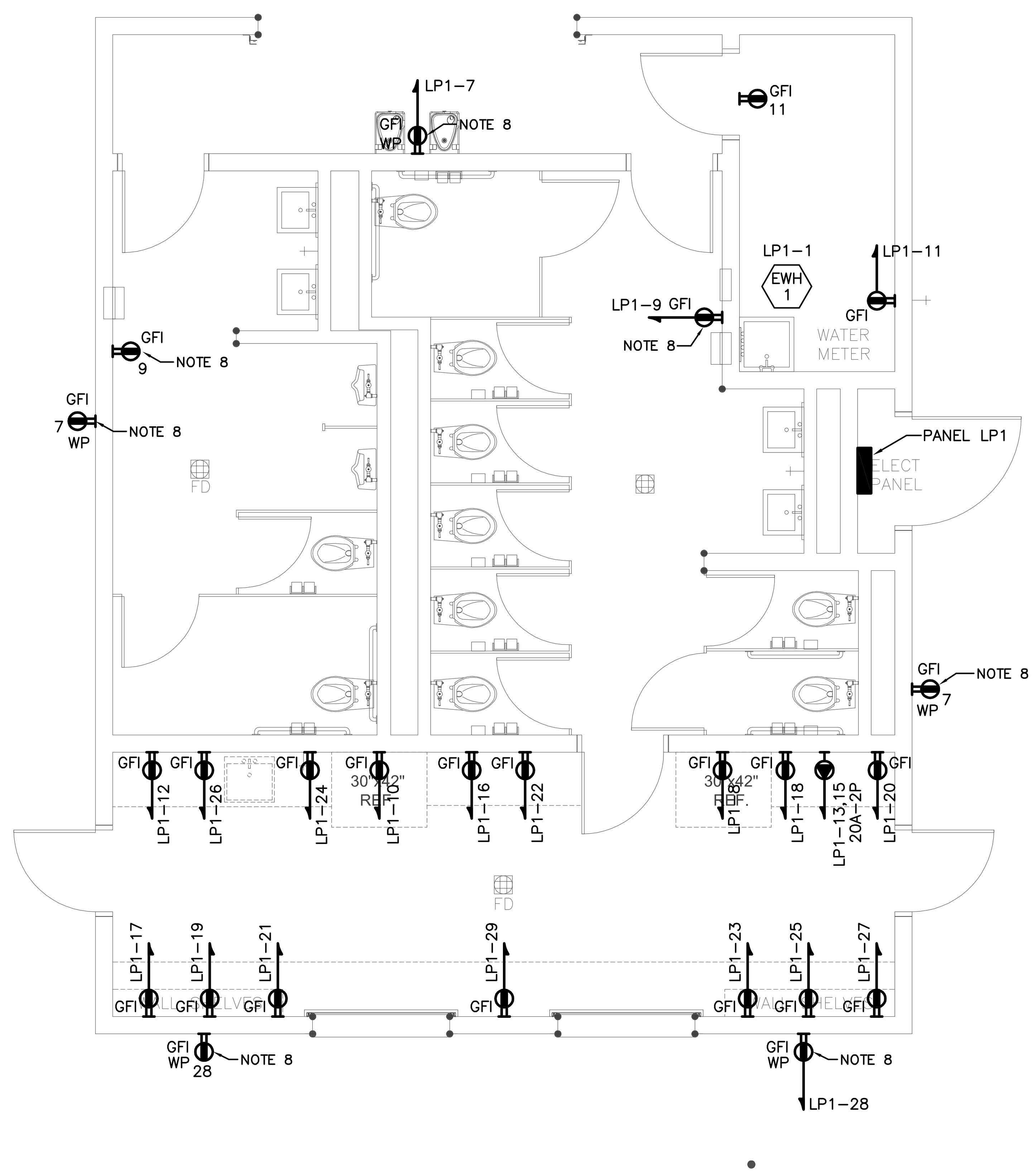
Electrical Legend and General Notes

Revisions:		
No.	Date	Description

Drawn By: PMG
Checked By: JJK
Approved By: MR
Drawing Scale: NONE
Project Number: 09154.01
Date: September 08, 2011
BID SET

E0.0

SHEET 1 OF 3

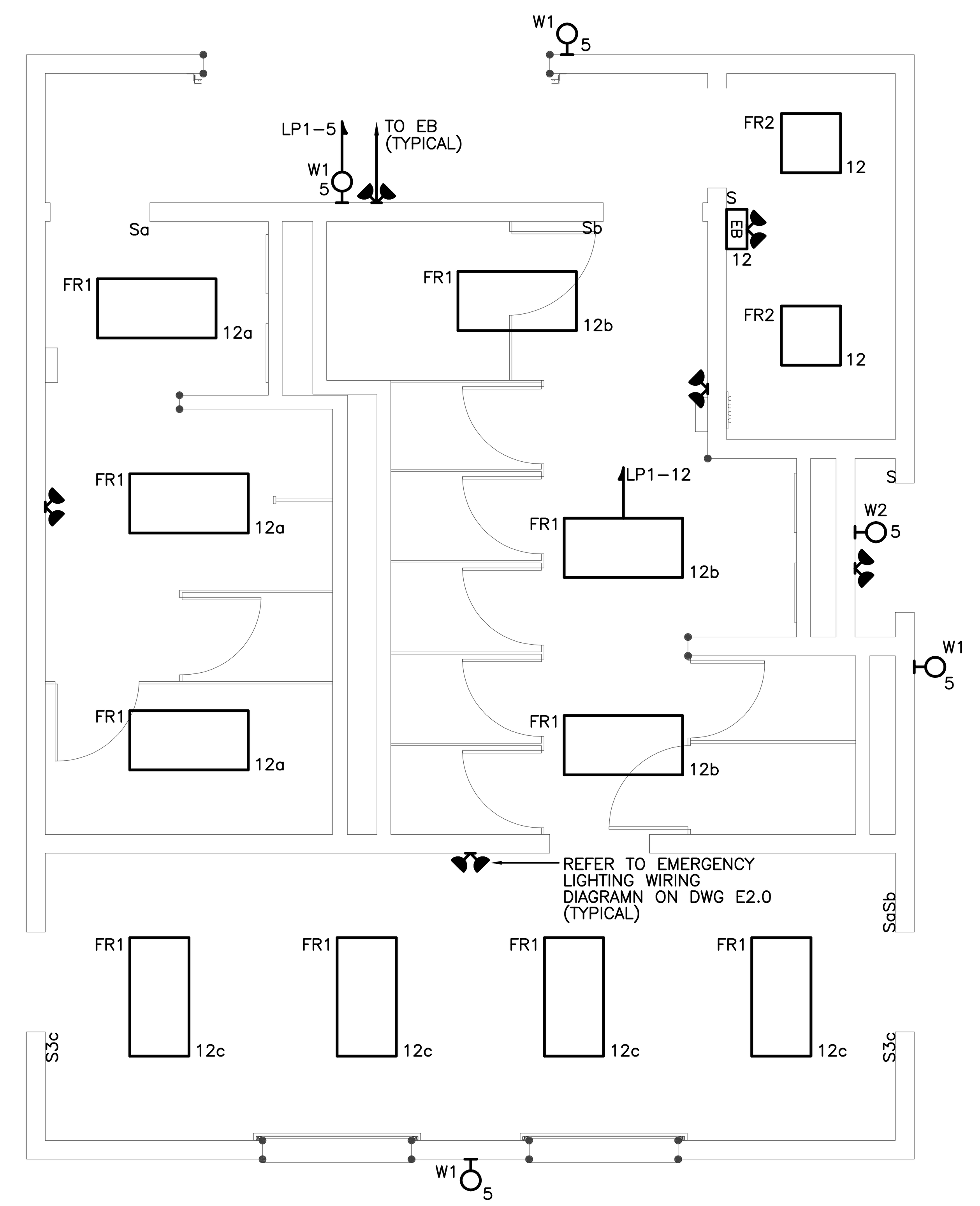


1 Floor Plan

Scale: 1/4"=1'-0"

POWER NOTES:

1. SEE DRAWING E0.0 FOR ELECTRICAL LEGEND AND GENERAL NOTES.
2. COORDINATE EXACT ELECTRICAL DEVICE MOUNTING HEIGHTS AND LOCATIONS WITH ARCHITECTURAL CASEWORK OR ARCHITECTURAL INTERIOR/EXTERIOR ELEVATION DRAWINGS.
3. COORDINATE COLOR OF RECEPTACLE FACEPLATES AND DEVICES WITH ARCHITECT PRIOR TO ORDERING EQUIPMENT.
4. CIRCUIT NUMBER DESIGNATIONS ARE INTENDED TO ILLUSTRATE BRANCH WIRING CONFIGURATION ONLY.
5. ALL POWER/DATA OUTLET FACEPLATES SHALL BE LABELED WITH CIRCUIT NUMBER FEEDING OUTLET AND PANEL DESIGNATION. LABEL STYLE AND SIZE SHALL MATCH BASE BUILDING STANDARDS. CONTRACTOR SHALL COORDINATE COLOR, SIZE AND METHOD OF LABELING WITH ARCHITECT.
6. ALL EXPOSED AND SURFACE MOUNTED CONDUIT SHALL BE GALVANIZED RIGID STEEL.
7. POWER RECEPTACLE SHALL BE RECESSED WITHIN WALL. CONTRACTOR SHALL FURNISH AND INSTALL BACKBOX, AND LOCKABLE, COVER. PASS & SEYMOUR OR APPROVED EQUAL. PASS & SEYMOUR CATALOG NUMBERS: COVER: 4600, MOUNTING PLATE: 460026P, KEY: 4609.
8. CONTRACTOR SHALL WIRE NEW EXHAUST FAN TO LIGHTING CONTROL. WHEN LIGHTING IS TURNED ON WITHIN BATHROOMS, EXHAUST FAN SHALL TURN ON.

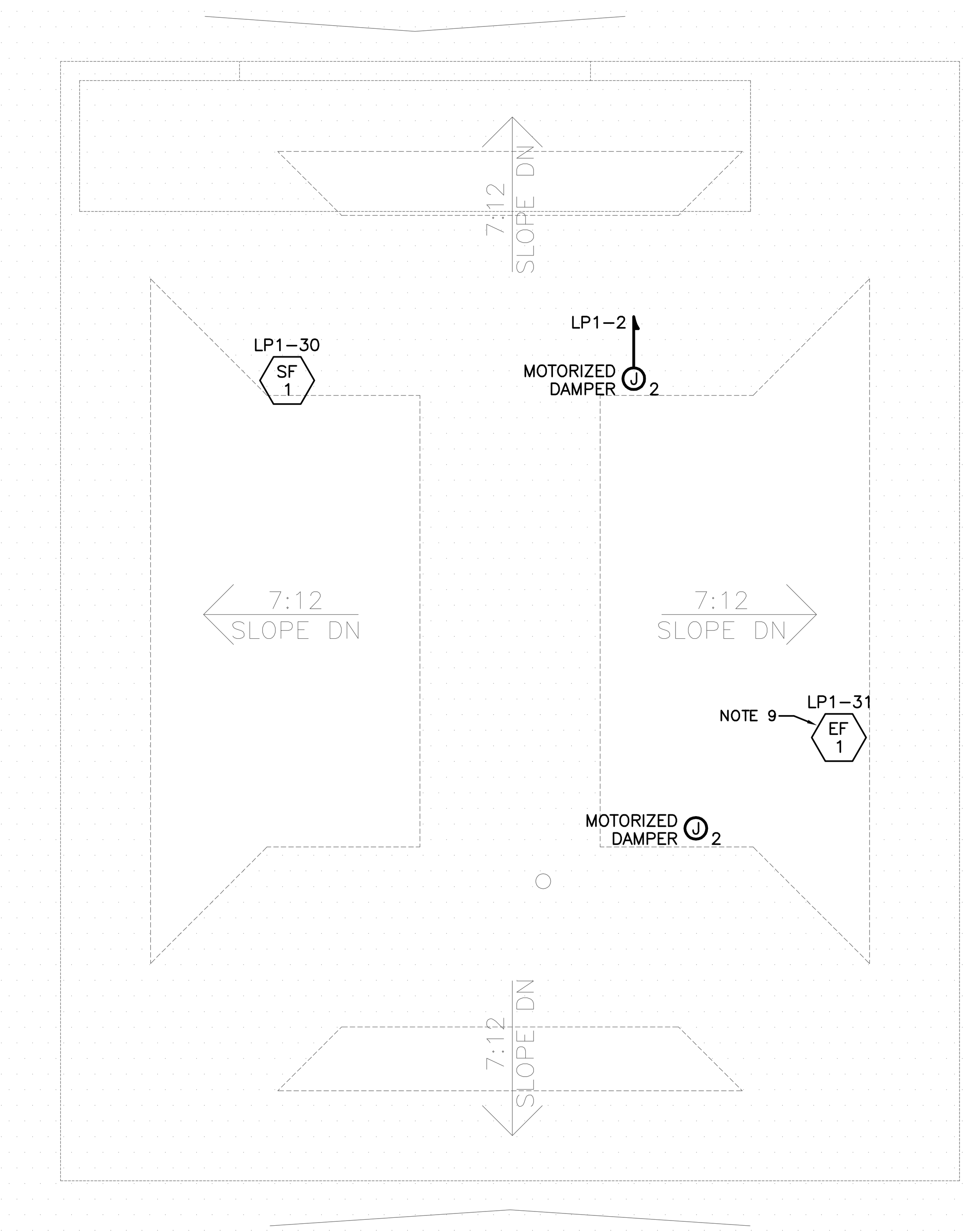


2 Ceiling Plan

Scale: 1/4"=1'-0"

LIGHTING NOTES:

1. SEE DRAWING E0.0 FOR ELECTRICAL LEGEND AND GENERAL NOTES.
2. COORDINATE SWITCHING AND LIGHTING FIXTURE LOCATIONS WITH ARCHITECTURAL CASEWORK OR INTERIOR ELEVATION DRAWINGS.
3. COORDINATE EXACT LIGHTING FIXTURE LOCATIONS AND LENGTHS WITH ARCHITECTURAL REFLECTED CEILING PLAN.
4. ALL NEW EQUIPMENT SHALL MATCH BASE BUILDING STANDARDS AND SPECIFICATIONS, UNLESS NOTED OTHERWISE. ALL NEW EQUIPMENT SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM
5. CIRCUIT NUMBER DESIGNATIONS ARE INTENDED TO ILLUSTRATE BRANCH WIRING CONFIGURATION ONLY.
6. PROVIDE "HOT" UNSWITCHED POWER AT ALL LIFE SAFETY BATTERY UNITS.
7. ALL EMERGENCY BATTERY PACKS SHALL BE SUPPLIED WITH CONTACTS TO ACCEPT REMOTE EMERGENCY HEADS.
8. CONTRACTOR SHALL COORDINATE ALL LIGHTING WITH NEW SYSTEMS ABOVE CEILING PRIOR TO INSTALLATION. CONTRACTOR SHALL RESOLVE ANY INSTALLATION CONFLICTS IN FIELD AND NOTIFY ARCHITECT OF CHANGE.
9. ALL EXPOSED AND SURFACE MOUNTED CONDUIT SHALL BE GALVANIZED RIGID STEEL.
10. ALL FIXTURES UTILIZING HID LAMPS SHALL MEET THE ENERGY INDEPENDANT AND SECURITY ACT "EISA"



3 Roof/Attic Plan

Scale: 1/4"=1'-0"

RDA architecture

Raymond Design Associates, Inc.
222 North Street
Hingham, MA 02043

Wozny/Barbar & Associates, Inc.
CONSULTING ENGINEERS

NEWTON SOUTH HIGH SCHOOL
FIELD FACILITY BUILDING
140 BRANDEIS ROAD
NEWTON CENTER MASSACHUSETTS 02459

Electrical
Lighting and Power
Floor Plans

Revisions:

No.	Date	Description

Drawn By: PMG
Checked By: JJK
Approved By: MR

Drawing Scale: NONE

Project Number: 09154.01

Date: September 08, 2011

BID SET

E1.0

SHEET 2 OF 3

LIGHTING FIXTURE SCHEDULE

MOUNTING	FLUORESCENT	INCANDESCENT/HID	EXIT
RECESSED	FR	R	XR
CEILING/SURFACE	FC	C	XC
PENDANT/SUSPENDED	FP	P	XP
WALL	FW	W	XW
TRACK	FT	T	

TYPE	DESCRIPTION	MANUFACTURER & CATALOG NUMBER	LAMPS NUMBER	LAMPS TYPE	INPUT VOLTS	INPUT WATTS	REMARKS
FR1	RECESSED 2'x4' VANDAL RESISTANT LENSED FIXTURE	COLUMBIA: 4VS24332MFSDR12E UTP6	3	F032W T8 3500K	MVOLT	96	FINISH BY ARCHITECT NOTE 1
FR2	RECESSED 2'x2' VANDAL RESISTANT LENSED FIXTURE	COLUMBIA: 4VS22317MFSDR12E UTP6	3	F017W T8 3500K	MVOLT	41	FINISH BY ARCHITECT NOTE 1
W1	EXTERIOR VANDAL RESISTANT WALL SCONCE WITH PHOTOCELL	HUBBELL: NRG306BPCW	1	26W CF	MVOLT	26	FINISH BY ARCHITECT NOTE 1 FINISH BY ARCHITECT
W2	2' STRIP WITH WIRE GUARD	COLUMBIA LIGHTING CN2114EPUWG	1	14W T5	MVOLT	14	FINISH BY ARCHITECT NOTE 1
EB	WALL MOUNTED DUAL HEAD EMERGENCY FIXTURE WITH REMOTE HEAD CAPACITY	EVENLITE: TUFFLITE DT SERIES DT4E1002W129H	2	9W TUN	12	18	PROVIDE INTERNAL HEATER NOTE 1
	WALL MOUNTED DUAL HEAD REMOTE EMERGENCY FIXTURE	EVENLITE: PHOENIX PW SERIES PW1292WG4	2	9W TUN	12	18	PROVIDE WIRE GUARD NOTE 1
	WALL MOUNTED LED EXIT SIGN WITH VANDAL RESISTANT SHIELD	EVENLITE: RAZOR SERIES RZREMR1WSLC	LED	LED	MVOLT	11	FINISH BY ARCHITECT PROVIDE VANDAL RESISTANT COVER NOTE 1

NOTES:

1. CONTRACTOR SHALL CONFIRM CEILING/WALL CONSTRUCTION WITH ARCHITECT PRIOR TO PURCHASE AND PROVIDE APPROPRIATE TRIM KIT FOR FIXTURE

PANELBOARD SCHEDULE

PANEL DESIGNATION	VOLTS	PHASE	WIRES	MAINS (MLO = MAIN LUGS ONLY) BUS SIZE	OVERCURRENT DEVICE TRIP	OVERCURRENT DEVICE FRAME	BKR POLES	15	20	25	30	40	50	60	70	TOTAL POLES	MOUNTING: S=SURFACE F=FLUSH	ADDITIONAL CIRCUIT BREAKERS	REMARKS
LP1	120/208	3	4	100	100	100	1P		35							42	S	–	–
							2P		1		1								
							3P												
EXISTING SLP1	120/208	3	4	EX	EX	EX	1P									EX	EX	(1)100A–3P	–
							2P												
							3P												

(BRANCH DEVICES – BREAKER AMPS: 15, 20, 25, 30, 40, 50, 60, 70)

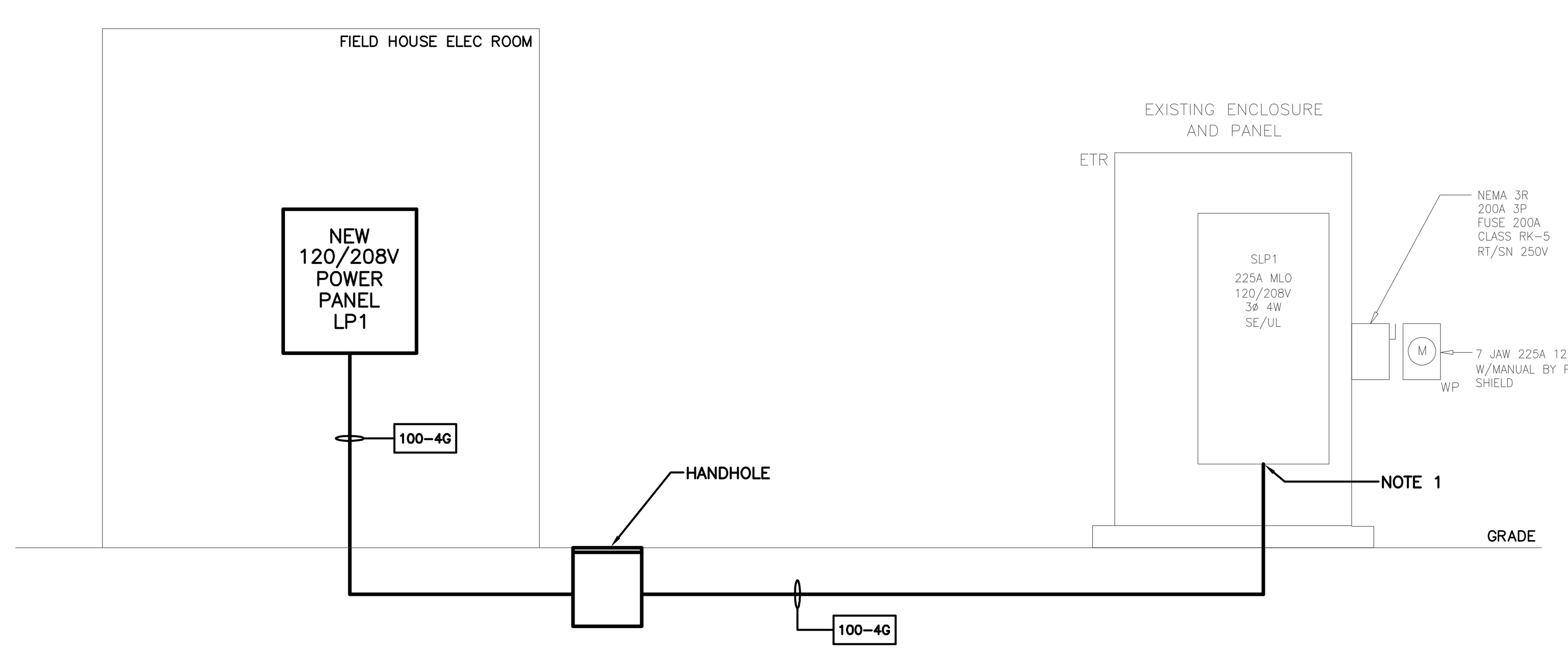
MECHANICAL EQUIPMENT CONNECTION SCHEDULE

ITEM	EQUIPMENT DESCRIPTION	HP	FLA	KW	VOLTAGE	PH	PANEL	CIRCUIT	C/B SIZE	NOTE 1 GFI	NOTE 2 WP	NOTE 3 GFI WP	J~	$~	DIRECT CONN	□	⧄	⊠	VFD	WP	RTS	$_D$	NOTES
SF 1	SUPPLY FAN	3/4	–	–	120	1	LP1	30	20/1P					✓									REFER TO SCHEDULE
EF 1	EXHAUST FAN	3/4	–	–	120	1	LP1	31	20/1P					✓									REFER TO SCHEDULE
EWH 1	ELECTRIC WATER HTR	–	–	4.5	208	1	LP1	1	30/2P							✓							REFER TO SCHEDULE

(ELECTRICAL RATING: HP through C/B SIZE; TYPE OF CONNECTION REQUIRED: NOTE 1 through $_D$)

MECHANICAL SCHEDULE NOTES:

1. PROVIDE DEDICATED CIRCUIT AND GFI DUPLEX RECEPTACLE FOR CONDENSATE PUMPS AS REQUIRED. REFER TO MECHANICAL PLANS FOR EXACT LOCATIONS AND QUANTITIES.
2. PROVIDE SURFACE MOUNTED, WEATHER PROOF, INDUSTRIAL "JELLY JAR" LIGHT FIXTURE. FIXTURE MOUNTED TO MECHANICAL UNIT. STONCO: ROUGHLYTE SERIES OR EQUAL. CONTRACTOR TO PROVIDE LAMP AND WEATHER PROOF SWITCH.
3. PROVIDE SURFACE MOUNTED, WEATHER PROOF, GFI, DUPLEX RECEPTACLE. RECEPTACLE MOUNTED TO MECHANICAL UNIT. REFER TO ELECTRICAL PLANS FOR EXACT LOCATIONS AND QUANTITIES.
4. CONTRACTOR TO COORDINATE EXACT LOCATION IN FIELD WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.



POWER RISER NOTES:

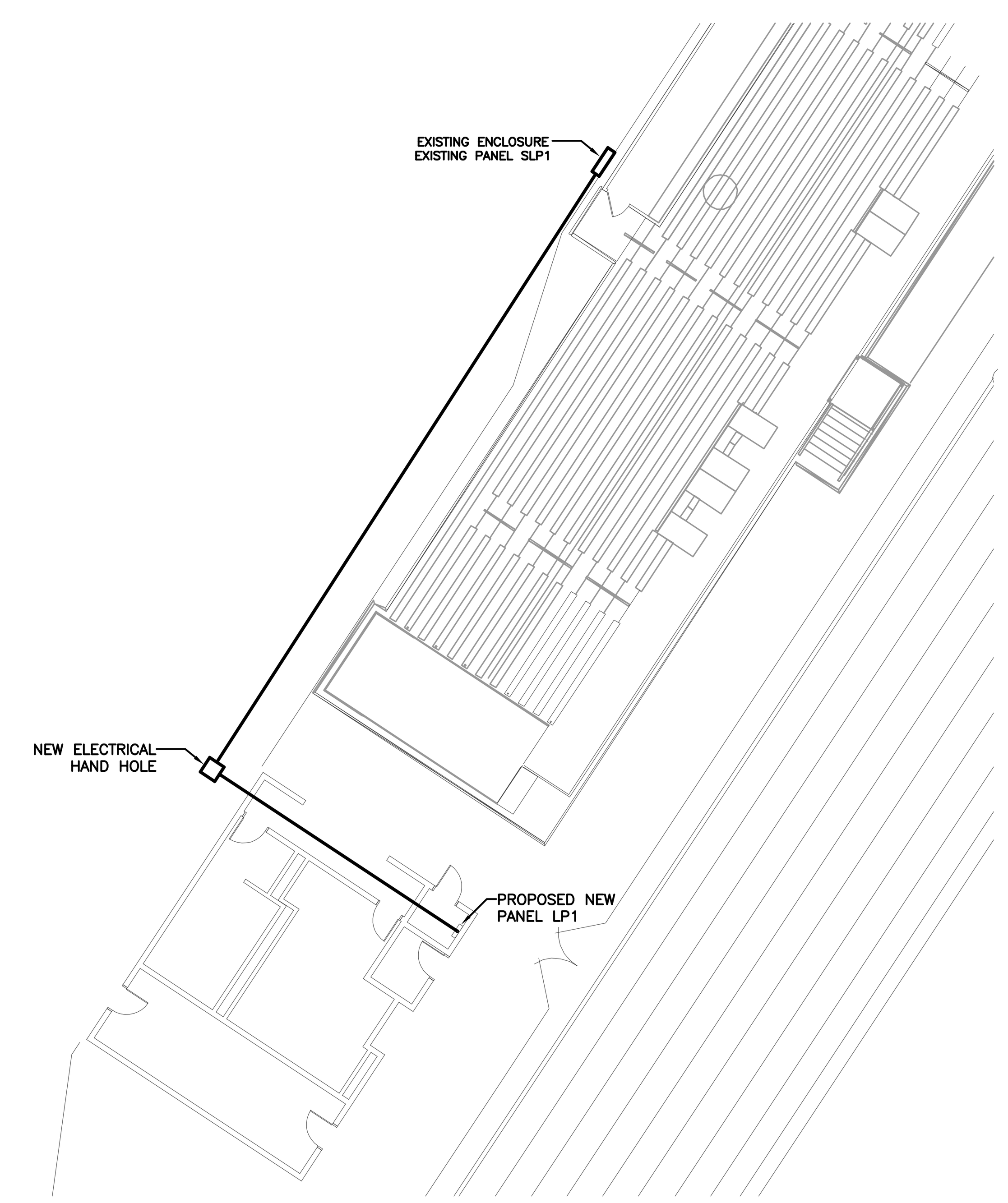
1. CONTRACTOR SHALL FURNISH AND INSTALL (1) 100A/3P BREAKER WITHIN EXISTING PANLE SLP1 TO FEED NEW PANEL LP1.
2. REFER TO FLOOR PLANS, SCHEDULES, AND SITE PLAN FOR ADDITIONAL INFORMATION.
3. HANDHOLE SHALL BE QUAZITE COMPOSITE STACKABLE OR EQUAL.
4. CONDUIT SHALL BE PVC SCHEDULE 40

1 Proposed Electrical Power Riser

Scale: NTS

LEGEND OF FEEDER SIZES– COPPER CONDUCTORS

TAG	CONDUCTORS (3 PHASE, 3 WIRE) WITH GROUND	RACEWAY SIZE	TAG	CONDUCTORS (3 PHASE, 4 WIRE) WITH GROUND	RACEWAY SIZE	NOMINAL AMPACITY RATING
30–3G	3#10 & 1#10 GND.	3/4"	30–4G	4#10 & 1#10 GND.	3/4"C.	30
50–3G	3#8 & 1#10 GND.	3/4"	50–4G	4#8 & 1#10 GND.	3/4"C.	50
60–3G	3#6 & 1#10 GND.	3/4"	60–4G	4#6 & 1#10 GND.	1"	60
100–3G	3#3 & 1#8 GND.	1 1/4"	100–4G	4#2 & 1#8 GND.	1 1/4"	100
125–3G	3#1 & 1#6 GND.	1 1/4"	125–4G	4#1 & 1#6 GND.	1 1/2"	125
150–3G	3#1/0 & 1#6 GND.	1 1/2"	150–4G	4#1/0 & 1#6 GND.	2"	150
175–3G	3#2/0 & 1#6 GND.	2"	175–4G	4#2/0 & 1#6 GND.	2"	175
200–3G	3#3/0 & 1#6 GND.	2"	200–4G	4#3/0 & 1#6 GND.	2"	200
225–3G	3#4/0 & 1#4 GND.	2"	225–4G	4#4/0 & 1#4 GND.	2 1/2"	225
250–3G	3#250 KCMIL & 1#4 GND.	2 1/2"	250–4G	4#250 KCMIL & 1#4 GND.	2 1/2"	250
300–3G	3#350 KCMIL & 1#4 GND.	2 1/2"	300–4G	4#350 KCMIL & 1#4 GND.	3"	300
350–3G	3#500 KCMIL & 1#3 GND.	3"	350–4G	4#500 KCMIL & 1#3 GND.	3"	350
400–3G	3#500 KCMIL & 1#3 GND.	3"	400–4G	4#500 KCMIL & 1#3 GND.	4"	400
600–3G	6#350 KCMIL & 2#1 GND.	2–3"	600–4G	8#350 KCMIL & 2#1 GND.	2–3"	600
800–3G	6#600 KCMIL & 3#1/0 GND.	2–3"	800–4G	8#600 KCMIL & 3#1/0 GND.	2–3 1/2"	800
1000–3G	9#400 KCMIL & 3#2/0 GND.	3–3"	1000–4G	12#400 KCMIL & 3#2/0 GND.	3–3"	1000
1200–3G	9#600 KCMIL & 3#3/0 GND.	3–3"	1200–4G	12#600 KCMIL & 3#3/0 GND.	3–3 1/2"	1200
1600–3G	12#600 KCMIL & 4#4/0 GND.	4–3"	1600–4G	16#600 KCMIL & 4#4/0 GND.	4–3 1/2"	1600



SITE NOTES:

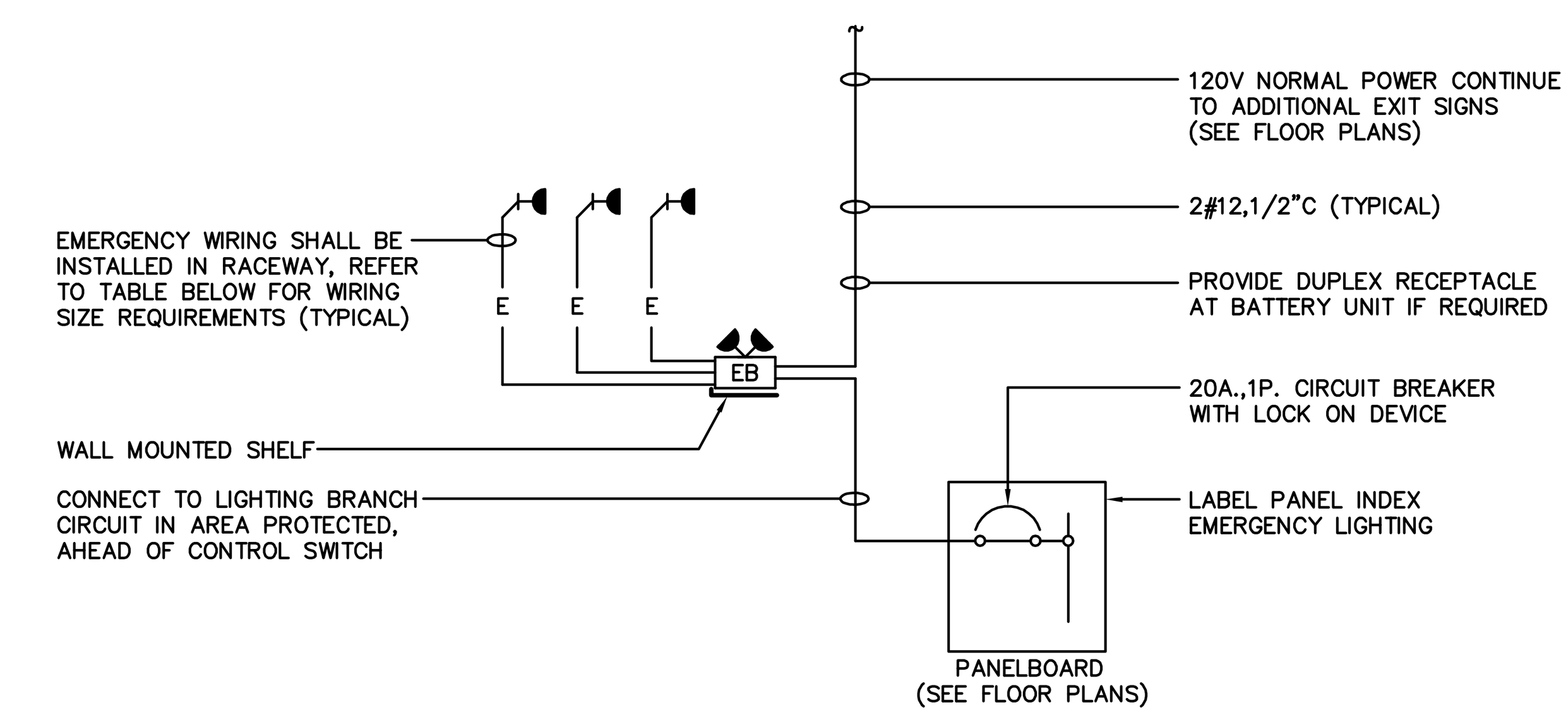
1. CONTRACTOR SHALL FIELD VERY AND CONFIRM EXACT ROUTING OF CONDUUIT AND PULLBOX WITH ARCHITECT AND CIVIL ENGINEER.
2. ALLOW 160' OF NEW FEEDER FOR BIDDING PURPOSES. PROVIDE UNIT PRICE, PER FOOT, PER FEEDER AND CONDUIT.
3. SEE POWER RISER DIAGRAM AND FLOOR PLANS FOR ADDITIONAL INFORMATION.

2 Proposed Site Plan

Scale: NTS

BRANCH CIRCUITS SCHEDULE

CIRCUIT BREAKER	CONDUCTOR
120 OR 277 VOLT 1ø, 2W. CIRCUITS	
30A–1P	2#10+1#10 GND – 3/4"C
40A–1P	2#8+1#10 GND. – 3/4"C
50A–1P	2#6+1#10 GND. – 3/4"C
60A–1P	2#6+1#10 GND. – 3/4"C
208 VOLT 1ø, 2W. CIRCUITS	
20A–2P	2#12+1#12 GND. – 3/4"C
30A–2P	2#10+1#10 GND. – 3/4"C
40A–2P	2#8+1#10 GND. – 3/4"C
50A–2P	2#6+1#10 GND. – 3/4"C
60A–2P	2#6+1#10 GND. – 3/4"C
208/120 VOLT, 1ø, 3W CIRCUITS	
20A–2P	3#12+1#12 GND. – 3/4"C
30A–2P	3#10+1#10 GND. – 3/4"C
40A–2P	3#8+1#10 GND. – 3/4"C
50A–2P	3#6+1#10 GND. – 3/4"C
60A–2P	3#6+1#10 GND. – 3/4"C
208 OR 480 VOLTS, 3ø, 3W CIRCUITS	
20A–3P	3#12+1#12 GND. – 3/4"C
30A–3P	3#10+1#10 GND. – 3/4"C
40A–3P	3#8+1#10 GND. – 3/4"C
50A–3P	3#6+1#10 GND. – 3/4"C
60A–3P	3#6+1#10 GND. – 3/4"C
208Y/120 & 480Y/277 VOLT, 3ø,4W CIRCUITS	
20A–3P	4#12+1#12 GND. – 3/4"C
30A–3P	4#10+1#10 GND. – 3/4"C
40A–3P	4#8+1#10 GND. – 3/4"C
50A–3P	4#6+1#10 GND. – 1"C
60A–3P	4#6+1#10 GND. – 1"C



NOTE:

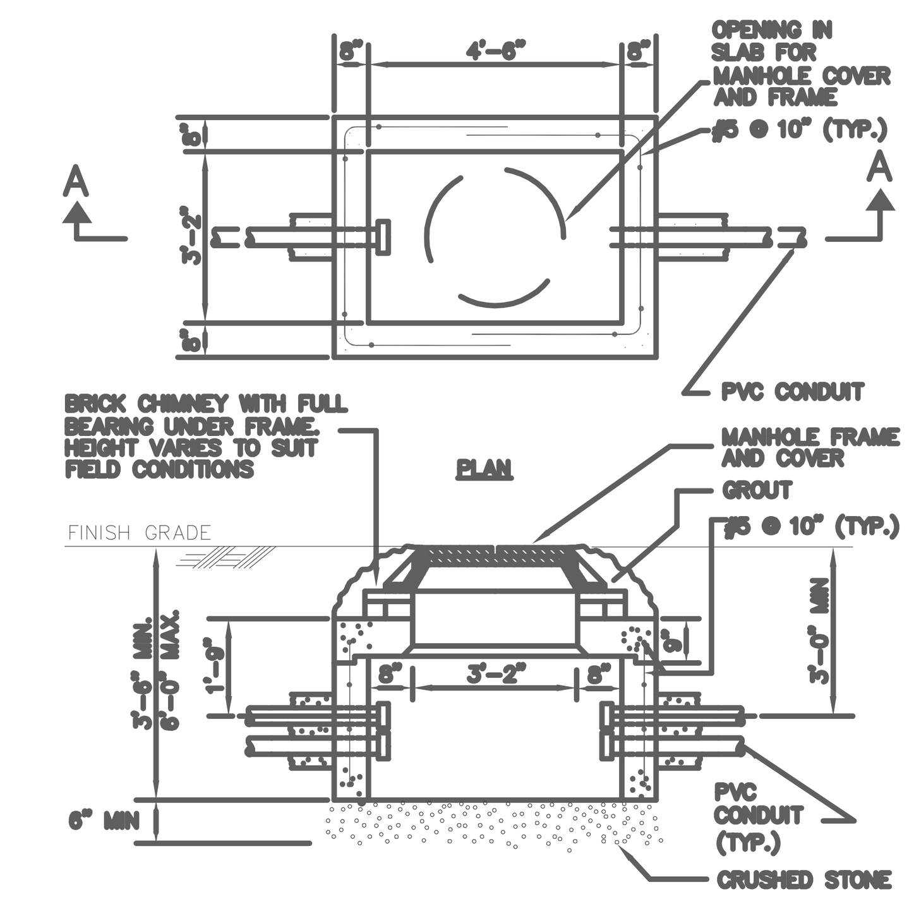
REFER TO FLOOR PLANS FOR EQUIPMENT LOCATIONS, SEE ARCHITECTURAL REFLECTED CEILING PLANS AND FLOOR PLANS FOR EXACT LOCATIONS.

EMERGENCY LIGHTING WIRING DIAGRAM

12V WIRING DISTANCES IN FEET

WIRE SIZE	13	18	25	28	32	44	50	100	150	200	250	300	320
#12	166'	111'	81'	73'	62'	47'	41'	20'	13'				
#10	265'	190'	136'	121'	104'	79'	69'	34'	23'	17'	13'		

(WATTAGE: 13 through 320)



Electrical Handhole Detail

Scale: None

RDA architecture

Raymond Design Associates, Inc.

222 North Street
Hingham, MA 02043

Wozny/Barbar & Associates, Inc.
CONSULTING ENGINEERS
1090 Washington Street
Hanover, MA 02339
Tel: (781) 826-4144
Fax: (781) 829-5023
www.wbaengineers.com
65 Dexter Road
Providence, RI 02914
Tel: (401) 438-1635
Fax: (401) 438-0850

NEWTON SOUTH HIGH SCHOOL FIELD FACILITY BUILDING
140 BRANDEIS ROAD
NEWTON CENTER MASSACHUSETTS 02459

Electrical Risers, Schedules and Details

Revisions:

No.	Date	Description

Drawn By: PMG
Checked By: JJK
Approved By: MR

Drawing Scale: NONE

Project Number: 09154.01

Date: September 08, 2011

BID SET

E2.0